CURRICULUM VITAE[1]

KC Santosh, PhD
Professor (AI) and Chair, Department of Computer Science
College of Arts & Sciences, University of South Dakota (USD), Vermillion, SD 57069
Email: kc.santosh@usd.edu ● Ph. +1.605.658.6841 ● Web: https://kc-santosh.org[2,3]

―――――――――――――――

Contents

---

1. Long CV is boring. Read bull's-eye biography: https://kc-santosh.org/kc-bullseye-bio.pdf (here is how I work at USD).
2. YouTube: https://www.youtube.com/@professor-ai-kc-santosh
3. TEDxTalk: https://www.youtube.com/watch?si=iFyjpaWdN-tM-b0Qv=J9dZV2EAuUUfeature=youtu.be

KC Santosh, PhD
Professor (AI) and Chair, Department of Computer Science
College of Arts & Sciences, University of South Dakota (USD), Vermillion, SD 57069

Education

1) INRIA Nancy Grand Est – Université de Lorraine
   – PhD in Computer Science – Artificial Intelligence (AI)   (AY2010/11, completed)
2) SIIT, Thammasat University
   – MS in Computer Science – Pattern Recognition & AI   (AY2006/07, completed)
3) Pokhara University
   – BEng in Electronics & Communication   (AY2002/03, completed)

Leadership and Training

1) Council of Colleges of Arts & Sciences (https://www.ccas.net)
   – Leadership Training for Deans/Chairs   (Spring 2021, completed)
   – Leadership Training for Deans/Chairs 2.0   (Summer 2024, completed)

   Major activities. Connecting with deans/chairs (across the states), professional development, forum for discussing issues in higher education, and liberal learning
2) University of South Dakota (USD)
   – President's Executive Leadership Institute   (August 2021 - May 2022)

   Major activities. Develop future university leaders and administrators to learn high-education challenges and issues, foster interdisciplinary collaborations and cultivate a strong connection to the campus community.

Professional Experience

1) ABET – Applied Natural Science Accreditation Commission
   – **Program Evaluator (PEV) - Computing Programs**   (Fall 2022 – Present)
     - *Major activities.* Number of site visits – 3 (Kent State University, University of Texas at Dallas, University of Michigan - Flint)
2) Department of Computer Science, College of Arts & Sciences, USD
   – **Full Professor**   (Fall 2024 – Present)

     (Note. exceptional memo from SD-BOR)

   – **Chair**   (Fall 2020 – Present)

   Major accomplishments.
     - Joined as a member of the AI Safety Institute Consortium (AISIC) – NIST (Spring 2024); supporting task forces #1. Risk Management for Generative AI, #2. Synthetic Content , #4. Red-teaming, and #5. Safety & Security: URL: https://www.nist.gov/artificial-intelligence/artificial-intelligence-safety-institute
     - PhD program: Data Science & Engineering (joint program with School of Mines, SD, start date: Fall 2023) – hired five PhD students (with funding)
     - Enrollment: 400+ graduate students (including Fall 2024) in four years as compared to ≤10-12 for 50 years – over 4,000% growth in three years. Similar positive transformations have also been observed in our undergraduate program (170 majors as opposed to ≤40 for 50 years).
     - Accreditation and program assessment: Successful ABET accreditation renewal (22-23 cycle) for CS program, USD – No deficiencies, weaknesses, or concerns were found.
     - Developed and helped certificates & specializations (inter-disciplinary programs):
       Data science certificate (Undergraduate: CS and non-CS majors), Bioinformatics certificate (Graduate: CS, Biology, and Biomedical Engineering), Geospatial certificate (Graduate: CS, Sustainability, Biology, and Psychology), and Physics - analytics for large data sets specialization
     - Agreements and MOUs:
       + Benaiah Capital, Sioux Falls, SD and USD: Agreement signed (Summer 23)
       + Indian Institute of Information Technology (IIIT) Allahbad and USD: MOU signed (Fall 2023)
       + Thumbay Institute for AI in Healthcare, Gulf Medical University and Applied AI Research Lab: MOU signed (Spring 2024)
     - Research grants and fellowships:

+ Biomedical Computational Research (Department of Education, \$6,500,000.00, PI (Artificial Intelligence Lead))
+ USD-SSOM-SDSMT Biomedical Computational Research Collaborative (State of SD, \$745,000.00, co-PI)
+ Research Infrastructure: CC* Campus Compute: Lawrence 2.0: Advancing Multi-Disciplinary Research and Education in South Dakota (NSF, \$499,920, co-PI)
+ Banaiah Capital (Crypto, Sioux Falls, SD) Fellowship Program – \$25K/year for 5 years
+ Building AI Research Capacity at USD (DOD \$1,000,000.00, PI: D Engebretson and my role: Program Director) (link: DOD press release, May 10, 2023).
+ PhD fellowship program (Quad fellowships by Schmidt Futures, \$50K, my role: co-Supervisor) (link: Quad fellows 2024).

- Symposia/research events :
  + NSF awarded Workshop for Artificial Intelligence-powered Materials Discovery at Grant Plains (NSF #2427805, \$199, 280.00, my role - AI lead - Local Organizer)
  + IEEE sponsored USD AI symposium (2021, 2022, 2023, 2024) – 2700+ participants in 2024 and 1400+ participants in 2023 (previously, Data Harnessing Symposium - 2018 and 2019) (role - Founder and Co-Chair)
- Faculty/staff hiring: Hired 15 full-time CS faculty (Fall 2020 – present): S Baride, D Jha, L Chato, C Minette, Z Tschetter, D Elliot, D Kahn, H Lone, K Sutrave, V Saravanan, L Wang, R Rizk, L Fritsch, K Sternquist, and F Akhbardeh. Five of them are in the tenure-track category, and one was under DOD grant (\$1m).
- *Ongoing/pending approvals.*
  + PhD in Biomedical Computing (with School of Medicine, USD)
  + MS in Quantum Computing (to start in Fall 25)
  + Agreements and MOUs: University of Derby (UK), IIIT Bhopal (India), Universite Cadi Ayad, Ecole Nationale des Sciences Appliquès de Marrakech (Morocco), and Gulf Medical University (UAE)
  + Research grants and fellowships: NSF (\$110,000, PI) and Indo-US collaborative grant (\$599,768, PI)
  + Faculty/staff hiring: Multiple hires – 2 faculty and one secretary (to start, Fall 24) (see SDBOR page for calls).

– **Associate Professor** (Fall 2020 – Spring 24)
– **Chair (Acting)** (Summer 2019)

Major accomplishment. Organized symposium/research event (as the founder and co-chair) in collaboration with Beacom School of Business: USD Data harnessing symposium (2019) – ∼250 audience size.

– **Graduate Director** (Fall 2017 – Summer 2024)

Major accomplishments.

- Developed new AI programs - certificate and specialization for both undergraduate and graduate programs. USD is the home to state's only AI programs (2020).
- Transformed curricula in both undergraduate and graduate programs: mostly in AI/ML, computer vision, information science/data science related courses.
- Helped in building new MS program (Business Analytics), as a core member, in Beacom School of Business (USD) as well as creating and teaching courses such as CSC/DSCI 505 Business Analytics Fundamentals.
- Organized symposium/research event (as the founder and co-chair) in collaboration with Beacom School of Business: USD Data harnessing symposium (2018, 2019) – ∼300 audience size per event.

– **Founder & Director, 2AI: Applied AI Lab (∼20+ members)** (Fall 2015 – present)

Major accomplishment. The 2AI research lab is completely aligned with those AI programs at the University of South Dakota. As our research lab is growing from 5 members (in 2015) to ∼30 (in 2022), and based on our publication record, we are ranked no. 1, in the state of SD (source: bibliometrics research report). In total, we published 100+ peer-reviewed research articles and 8 authored books (since 2015).

– **Assistant Professor** (Fall 2015 – Spring 2020)

Major accomplishments.

- President's Research Award (2019) – publication record: ∼150 research articles (peer-reviewed) plus one authored and two edited books.
- *Belbas-Larson Award* Nomination for Excellence in Teaching, USD (2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023)

3) International Medical University (IMU), Malaysia

– **Full Professor (Adjunct)** (Fall 2021 – Spring 2023)

Major accomplishment. Supported new developed Centre for Digital Health and Health Informatics (CDHHI, 2022) at IMU.

4) School of Computing & IT, Taylor's University, Malaysia

– **Associate Professor (Visiting)** (Spring 2019 – Spring 2020)

Major accomplishment. Supported in curriculum advising.

5) National Library of Medicine, National Institutes of Health (NIH)
   – **Research Fellow** (Summer 2013 – Summer 2015)
   Major accomplishment. Received the US Department of Health and Human Services (HHS) Ignite Award (2014)

6) LORIA (UMR 7503) Research Centre and ITESOFT Co., France
   – **PostDoc Research Scientist (Industry)** (Fall 2011 – Spring 2013)
   Major accomplishment. Developed a g-DICE: graph mining-based Document Information Content Exploitation commercial tool (2012).

7) INRIA Nancy Grand Est, Université de Lorraine, France
   – **Researcher (Academic + Industry)** (Fall 2008 – Fall 2011)

I. Honors/Awards and/or Recognitions

1) *Member* (PI for USD) of the AI Safety Institute Consortium (AISIC) - NIST (2024): https://www.nist.gov/artificial-intelligence/artificial-intelligence-safety-institute

2) *Visionary leadership Award*, University of Derby, UK (2023)

3) *IEEE Distinguished Lecturer,* Signal Processing Society (www.ieee.org) (2023 - present)

4) *Program Evaluator* (*PEV*) for accrediting computing programs, ABET (www.abet.org) (2022)

5) *ACM Distinguished Speaker,* Association for Computing Machinery (www.acm.org) (2022 - 2025)

6) The *Cutler Award* for Teaching & Research Excellence, College of Arts & Sciences, USD (2021)

7) The *Choice Outstanding Academic Title* of the year for a book titled "Medical Imaging: Artificial Intelligence, Image Recognition, and Machine Learning Techniques", Association of College and Research Libraries (2020)

8) The *President's Award* for Research Excellence, USD (2019)

9) *Professor of the Game* (two times in a row): Certificate of Recognition (Academic Achievement), Academic Affairs, University of South Dakota (03/02/2019 and 01/24/2020)

10) Nominations (since 2015): *Belbas-larson Award* for Excellence in Teaching, USD (2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023)

11) *Senior Member*, The Institute of Electrical and Electronics Engineers (IEEE) professional association (*IEEE*) (2018)

12) *Best Paper Award*: RTIP2R (2016, 2018, 2020); KICSS (2006)

13) *Outstanding Reviewer Award* (Top 10%): Future Generation Computer Systems (Journal); Applied Soft Computing Journal (Journal); and Pattern Recognition (2016, 2017, 2018)

14) *US Department of Health and Human Services* (HHS) Ignite Award (2014)
    Project: Automatic X-ray Screening for Rural Areas, US National Library of Medicine

15) *INRIA-CORDI Fellowship* for Fresh FP-6 Strep (European Project) for PhD (08/2008 – 11/2011)

16) *Best Lecturer*, Institute of Engineering, Tribhuwan University (2008)

17) *Asian Development Bank - Japan Scholarship* for MS (06/2005 – 05/2007)

18) *University Full Scholarship* for BEng (09/1999 – 08/2003)

19) *College Full Scholarship* for Intermediate Science (06/1997 – 05/1999)

II. Teaching and Advising

A. Courses Taught

1) Information Retrieval & Analysis (CSC 292 and CSC 380),
2) Machine Organization (CSC 324/324L),
3) Data Analysis, Decision Making and Visualization (CSC 457 and CSC 557),
4) Pattern Recognition and Machine Learning (CSC 488 and CSC 588),
5) Artificial Intelligence (CSC 547, CSC 447, and CSC 761),
6) Math for Data Science & Machine Learning (CSC 442 and CSC 542)
7) Computer Vision (CSC 492, CSC 592, and CSC 752),
8) Machine Learning Fundamentals CSC 722),
9) Unix Environment (CSC 492, CSC 592, and CSC 792),
10) Information Storage & Retrieval (CSC 785),
11) Graduate Seminar (CSC 790),

12) AI in Medical Imaging Informatics (CSC 787),
13) Robot Programming: Basics and Advanced (CSC 492 and CSC 592),
14) Business Analytics Fundamentals (CSC/DSCI 505 (business)), and
15) Independent Study: Machine Learning, Deep Learning, Data Mining, and Machine Vision (CSC 491, CSC 591, and CSC 791).

A.1 IDEA evaluations (*summative ratings, raw scores on a scale of 1 to 5*)*:* Not all the courses (as listed before) were evaluated due to several administrative reasons. The following is the summary of a complete 5 Academic Year (AY) evaluation record (since 2015):

AY9. SP 2024 CSC 722 (4.8) class size: 231)
    FA 2023: CSC 785 (4.8) (class size: 108)
AY8. SU 2023: CSC 787 (no score provided) (class size: 117)
    SP 2023: CSC 790 - two sections (4.6, 4.8) (class size: 65, 39)
    FA 2022: CSC 752 - two sections (4.8, 4.7) (class size: 84, 20)
AY7. SU 2022: CSC 787 (4.8) (class size: 42)
    SP 2022: CSC 722 - two sections (4.8, 4.9) (class size: 49, 5)
    FA 2021: CSC 785 (4.9)(class size: 34)
AY6. SU 2021: CSC 787 (4.9) (class size: 14)
    SP 2021: CSC 790 (4.9) (class size: 19)
    FA 2020: CSC 752 (4.7) (class size: 14)
AY5. SP 2020: CSC 324/L (4.8), CSC 722 (4.8) (class size: 17, 18)
    FA 2019: CSC 380 (4.9), CSC 785 (4.8) (class size: 19, 10)
AY4. SU 2019: CSC/DSCI 505 (no score) (class size: 4)
    SP 2019: CSC 324/L (4.4), CSC 492 (4.5), CSC 592 (4.6) (class size: 19, 24, 10)
    FA 2018: CSC 380 (4.5), CSC 752 (4.9) (class size: 9, 18)
AY3. SP 2018: CSC 324/L (4.9), CSC 547 (4.9) (class size: 15, 14)
    FA 2017: CSC 380 (4.4), CSC 492 (4.3), CSC 792 (4.9) (class size: 10, 12, 8)
AY2. SP 2017: CSC 447 (3.9), CSC 592 (3.3) (class size: 27, 17)
    FA 2016: CSC 380 (4.7), CSC 592 (4.6) (class size: 17, 11)
AY1. SP 2016: CSC 324/L (4.1), CSC 492 (3.3), CSC 592 (4.5) (class size: 19, 21, 11)
    FA 2015: CSC 492 (3.8), CSC 592 (3.8) (class size: 11, 8)

The following links are the proofs of the IDEA evaluations (few courses):

1) Graduate program:
   - CSC 785 Information Storage & Retrieval (FA21: CSC785-fall2021.pdf)
   - CSC 790 Graduate Seminar (FA20: CSC790-spring2021.pdf)
   - CSC 752 Computer Vision (FA20: CSC752-fall2020.pdf and FA18: CSC752-fall2018.pdf)
   - CSC 722 Machine Learning Fund. (SP20: CSC722-spring2020.pdf)
   - CSC 547 Artificial Intelligence (SP18: CSC547-791-spring2018.pdf)
   - CSC 792 Unix Environment (FA17: CSC792-fall2017.pdf)
2) Undergraduate program:
   CSC 380: Information Retrieval & Ana. (SP18: CSC324-spring2018.pdf)

A.2 Nominations (*for teaching*)*:* Since 2015, I have been receiving nominations for the Belbas-Larson award every year from my students: 8 nominations (2016), 12 nominations (2017), 14 nominations (2018), 29 nominations (2019), 12 nominations (2020), 10 nominations (2021), 17 nominations (2022), 18 nominations (2023), and 21 nominations (2024).
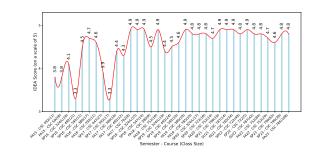
For your reference, nominations from 2018 and 2019 can be found 2018.pdf and 2019.pdf, respectively.

B. Teaching Grants

1) Artificial Intelligence (AI) in Robotics Center for teaching & Learning (CTL), USD (SP18): To design fully programmed humanoid robot that helps Robot Programming course (undergraduate and graduate).

C. Student Mentoring

1) 19 PhD dissertations – supervisor (2, completed + 4, on-going) + co-supervisor (2) + examiner (11)
2) 36 MS theses – supervisor (22) + committee member (14)

3) 6 Honors theses – supervisor (4) + committee member (2): Pragati Rouniyar (2024), Hugo Morvan (2022), Jordan Grothe (2022), Josh E Henderson (2020, distinction award), and Joseph Mammo (2017)

4) 3 Fulbright scholars – supervisor (3): Amin Brahem (2022), Aya Ouhichi (2022), and Ali Dogazz (2023)

────────────

D. Advising

Graduate students: Being the graduate program director, I advise all graduate students (2017 - present). Our graduate program is composed of 300+ students (data: Fall 2023). I frequently meet students on courses (registrations), exam preparation, thesis committee formation, and professional development (career).

Undergraduate students: I advised for more than 10 students per year (2015 - 2020). Since Fall 2020, as a secondary advisor (department chair), I have been advising all CS majors (150+ students).

III. Curriculum and Program Development, including Assessment

────────────

A. Courses

I developed more than a dozen of courses and that are mostly related to AI/Data Science programs, including the honors program. Some of them are listed as follows:

CSC 4/505 - Business Analytics Fundamentals,
CSC 4/517 - Programming for Scientific Computing,
CSC 4/527 - Trends in Information/Data Science,
CSC 4/542 - Applied Math for Data Science and Machine Learning,
CSC 4/544 - Internet of Things (IoT),
CSC 4/557 - Data Analysis & Decision Making,
CSC 4/572 - AI and Ethical Issues,
CSC 4/588 - Pattern Recognition & Machine Learning,
CSC 724 - Applied Reinforcement Learning,
CSC 787 - AI in Medical Imaging Informatics, and
CSC 792 - Quantum Computing (test run in SU 23 with 100+ students)

────────────

B. Programs

+ MS in Quantum Computing (pending/in progress)
+ PhD in Computational Biomedical Science (joint: USD-SSOM-SDSMT) – AI-focused trans-disciplinary biomedical computation (in progress)

—

1) PhD, Data Science & Engineering (joint program with SD School of Mines, approved in Spring 2023)
2) MS, Computer Science (USD)
   - Revised MS program in Computer Science (approved in FA19, SDBOR)
   - Artificial Intelligence: Specialization, 15CR (approved in FA20, SDBOR)
   - Artificial Intelligence: Certificate (On-line), 12CR (approved in FA20, SDBOR)
   - Bioinformatics Certificate (On-line), 12 CR (Approved in SP22)
3) BA/BS, Computer Science (USD)
   - Artificial Intelligence: Specialization, 15CR (approved in FA20, SDBOR)
   - Artificial Intelligence: Certificate, 12CR (approved in FA20, SDBOR)
4) BA/BS, CS and Non-Computer Science Majors
   - Data Science: Certificate, 9CR (approved in SP22, SDBOR)
5) Graduate specialization (Physics)
   - Physics-analytics for large data sets (approved in Fall 2020, SDBOR) (role: core committee member)
6) Graduate certificate - CS, Biology, Sustainability, and Psychology
   - Geospatial Analysis (approved in Fall 2020, SDBOR) (role: core committee member)
7) MS, Beacom School of Business
   - Business Analytics (approved in Spring 2018, SDBOR) (role: core committee member)
8) AI Institute – Summer Program
   - 12-week AI Institute: Certificate, 9-12CR (with international academic partner, approval pending)

────────────

C. Assessment/accreditation

1) BS in Computer Science – ABET accreditation (FA17) and re-accreditation (FA23)

IV. Research/Creative Activity

A. Grants

1) External Grants

- i) Biomedical computational research (*09/01/2024 – 08/30/2027*)
  Amount: $6,500,000; *Funded by:* Department of Education; and *My role:* PI (Artificial Intelligence Lead)
- ii) Research Infrastructure: CC* Campus Compute: Lawrence 2.0: Advancing Multi-Disciplinary Research and Education in South Dakota (*08/01/2024 –)*
  Amount: $499,920; *Funded by:* NSF; and *My role:* co-PI
- iii) Building AI Research Capacity at USD (*07/01/2023 – 06/30/2025*)
  Amount funded: $1M; *Funded by:* DOD; and *My role:* Co-PI with PI, Dan Engebretson link: DOD press release, May 10, 2023
- iv) USD-SSOM-SDSMT biomedical computational research (*01/01/2024 – 12/31/2025*)
  Amount: $745,000; *Funded by:* South Dakota Board of Regents; and *My role:* co-PI
- v) Quad Fellowship - PhD student (IIIT - Allahbad) (*08/21/2023 – 07/30/2024*)
  Amount funded: $50,000; *Funded by:* Quad fellowships by Schmidt Futures; and *My role:* Co-supervisor (with primary supervisor, Satish K Singh, IIIT-A)
- vi) State of South Dakota Children's Wellbeing Data Initiative (*10/01/2022 – 09/30/2023*)
  Amount funded: $60,000; *Funded by:* State of SD Children's Wellbeing Data Initiative, School of Health Sciences, USD; and *My role:* Supporting/Senior Personnel
- vii) Change detection - satellite imaging (*08/21/2022 – 8/20/2023*)
  Amount funded: $27,000; *Funded by:* Synthetic Applied Technologies and USD Technology Transfer Office; and *My role:* Director/Supervisor (CS Department)
- viii) SD Governor Research Center (*08/01/2022 – 07/30/2023*)
  Amount funded: $18,000; *Funded by:* State of SD; and *My role:* Director/Supervisor (CS Department)
- ix) Distributed Stream-Based Patient Simulator (*08/10/2022 – 7/30/2023*)
  Amount funded: $24,000; *Funded by:* USD Technology Transfer Office; and *My role:* Co-inventor
- x) Novel Method and Device for Measuring, Diagnosing and Treating Joint Positional Error and Proprioception Impairment (*01/10/2022 – 12/30/2022*)
  USD Tech #: T2022-00132; *Amount funded:* $24,000; *Funded by:* USD Technology Transfer Office; and *My role:* Co-inventor
- xi) NSF Research Traineeship (NRT) Program, USD (*08/01/2021 – 04/30/2021*)
  Amount funded: $38,000; *Funded by:* NSF National Research Traineeship: SPACT; and *My role:* Director/Supervisor (CS Department)
- xii) International Conference on Recent Trends in Image Processing & Pattern Recognition (RTIP2R, 2021) (*08/21/2021 – 08/24/2021*)
  Amount funded: $10,000; *Funded by:* Internationalization Partnership & Awards Scheme Plus (IPAS+) 2020, The Malta Council for Science & Technology; and *My role:* co-PI with L Garg, University of Malta (Malta)
- xiii) Developing robust framework for practical data mining (*08/01/2020 – 07/30/2021*)
  Amount funded: $50,000; *Funded by:* Asian Office of Aerospace Research and Development; and *My role:* co-PI with S Aryal, Deakin University (AUS)
- xiv) International Conference on Computer Based Medical Systems (CBMS) (*07/28/2020 – 07/30/2020*)
  Amount funded: $40,000; *Funded by:* IEEE Computer Society; and *My role:* Director (plus General Chair of the IEEE CBMS)
- xv) NSF Research Traineeship (NRT) Program, USD (*05/01/2020 – 04/30/2021*)
  Amount funded: $38,000; *Funded by:* NSF National Research Traineeship: SPACT; and *My role:* Director/Supervisor (CS Department)
- xvi) DOE, USD – Talent Search Program (*7/31/2019 – 08/30/2020*)
  Award/Grant #: P044A170241; *Amount funded:* $40,000; *Funded by:* Department of Education; and *My role:* co-PI (for Summer Robotics Camp)
- xvii) NSF Graduate Training Program, USD (*01/01/2020 – 12/30/2022*)
  Amount funded: $38,000; *Funded by:* NSF, USD-N3 program (Neuroscience, Nanotechnology & Networks); *Award/Grant #:* DGE-1633213 (NSF); and *My role:* Director/Supervisor (CS Department)
- xviii) Assessment of Bias in Chronic Pain Reporting (*08/01/2018 – 7/31/2019*)
  Award #: A19-0016-001; *Amount funded:* $8,000; *Funded by:* University of Nebraska Lincoln (*ref.* PI, D Peterson, Department of Psychology; and *My role:* Senior Personnel/Programmer
- xix) Biomechanics of Vascular Smooth Muscle Cell in Atherosclerosis (*08/22/2016 – 08/21,2017*)
  ORSP ref. #: UP1600205; *Grant #:* UA1700019; *Amount funded:* $93,000; *Funded by:* South Dakota Board of Regents Competitive Research Grant (CRG) award (*ref.* PI, Z Hong, BME Department); and *My role:* Collaborator/Senior Personnel

xx) Academic Alliance (Travel Grant): Research (*10/2016*)
Amount funded: $2,000; and *Funded by:* Mayo Clinic Center for Tuberculosis, MN

2) Internal Grants/Awards

i) 3D Deep Learning Model to Analyze Computed Tomography (CT) Scans for the Evidence of COVID-19. *Funded by:* UDiscover USD ($5,000.00, Summer 2022)

ii) Deep features to detect lung abnormality (due to COVID-19) using cough sound. *Funded by:* UDiscover USD ($5,000.00, Summer 2022)

iii) AI for medical imaging informatics - infectious disease outbreak. *Funded by:* Dean's Opportunity Fund, USD ($10,000.00, Summer 2021)

iv) Automatic lung health screening using respiratory sounds. *Funded by:* Graduate research and creative scholarship grant, USD ($750.00, Fall 2020 - Spring 2021)

v) Security Printing and Anti-Counterfeiting Technology (SPACT): *Fingerprint Image Analysis for Identification and Reconstruction. Funded by:* NSF-REU ($5,000.00, Summer 2019)

vi) Deep Learning for Disaster Detection on Satellite Time Series Image Data in High-Performance Computing. *Funded by:* Graduate research and creative scholarship grant, USD ($750.00, Fall 2019 - Spring 2020)

vii) Image Analysis-Based Automated Text Reading from Display Devices. *Funded by:* Council for Undergraduate Research and Creative Scholarship (CURCS), USD ($500.00, Summer 2019 - fall 2019)

viii) AI in Robotics: Deep Learning. *Funded by:* Council for Undergraduate Research and Creative Scholarship (CURCS), USD $600.00, Summer 2019 - Spring 2020)

ix) User-Driven Text Recognition (on-the-fly) for Biomedical Text Mining. *Funded by:* Council for Undergraduate Research and Creative Scholarship (CURCS), USD ($600.00, FY 2019)

x) Deep Learning for Human face Re-Identification with Siamese Network and Triplet Loss. *Funded by:* Graduate research and creative scholarship grant, USD[†] ($750.00, Fall 2019 - Spring 2020)

xi) Advanced Body Screening at the Airport using Deep Learning. *Funded:* Graduate research and creative scholarship grant, USD[†] ($750.00, FY 2019)

xii) AI in Robotics: Humanoid. *Funded by:* Center for Teaching and Learning (CTL), USD ($750.00, FY 2018)

[†]The Department of CS received such awards for the first time, since the establishment.

B. Research/Creativity Award/Recognition at USD

1) The *Cutler Award* for Teaching & Research Excellence, College of Arts & Sciences, USD (2021)
2) The *President's Award* for Research Excellence (New/Mid-Career Faculty), USD (2019)
3) The USD *3MT Thesis Competition Award*

i) Priyam Pandey (1st place, 2023): How big data is big enough to begin with? (Quad Fellowship project, PhD thesis, my role: thesis supervisor)

ii) Carrie Minette (3rd place, 2021): Man or Machine? The Production and Implications of Synthetic Fingerprints (NSF-NRT project - MS thesis, my role: thesis supervisor)

4) USD Undergraduate Research Excellence Award, Office of Research & Sponsored Program

i) Pragati Rauniyar (2024): The Impact of Artificial Intelligence on the Quality of Higher Education (fund: UDiscover - summer 2024)

ii) Hugo Morvan (2022): 3D Deep Learning Model to Analyze Computed Tomography (CT) Scans for the Evidence of Covid-19 (fund: UDiscover - summer 2022)

iii) Nicholas Rasmussen (2021 - 2022): AI for Healthcare: Cough Sound Analysis for the Evidence of Covid-19 (funds: NSF-REU, NASA, UDiscover, and CS Department)

iv) Sabi Kafley (2020): Biomedical Text Analytics (project: BME)

v) Subrat Subedi (2020): Natural Language Processing for Biomedical Texts (project: BME)

vi) Alina Chu (2019): Fingerprint Image Analysis for Security & Counterfeiting (project: NSF-REU)

vii) Airu Liu (2018): User-Driven Biomedical Text Mining (project: CURCS)

5) Research recognition at the State Capitol (with the Governor)

i) Hugo Morvan (2022): AI in detecting COVID-19 (USD news link – only two students were selected from USD.)

ii) Nicholas Rasmussen (2021): Cough Sound Analysis for the Evidence of Covid-19

C. Books

+ *2020: - present:* ⑤ *⋆Authored and* ② *‡Edited*

10) **KC Santosh** R Rizk, and S Bajracharya: ⋆Cracking the machine learning code: technicality or innovation?, Studies in Computational Intelligence, Springer Nature (2024)
URL: https://link.springer.com/book/9789819727193

9) **KC Santosh** and S Nakarmi: ⋆Active learning to minimize the risk of future epidemics, eISBN. 978-981-99-7441-2, SpringerBriefs in Applied Sciences and Technology, Springer (2023)
URL: https://link.springer.com/book/9789819974412

8) **KC Santosh** and Casey Wall: ⋆Artificial Intelligence, Explainability, and Ethical Issues – Applied Biometrics, SpringerBriefs in Applied Sciences and Technology, Springer (2022)
URL: https://doi.org/10.1007/978-981-19-3935-8

7) **KC Santosh**: ⋆Artificial Intelligence and Machine Learning in Public Healthcare Opportunities and Societal Impact, SpringerBriefs in Applied Sciences and Technology, Springer, ISBN. 978-981-16-6767-1, 2021
URL: https://link.springer.com/book/9789811667671

6) **KC Santosh**, N Das, and S Ghosh: ⋆Deep Learning Models for Medical Imaging, *Elsevier* Academic Press, ISBN. 9780128236505, 2021
URL: https://www.elsevier.com/books/deep-learning-models-for-medical-imaging/santosh/978-0-12-823504-1

5) **KC Santosh** and A Joshi: ‡COVID-19: Prediction, Decision-Making, and its Impacts, Book series in Lecture Notes on Data Engineering and Communications Technologies, Springer Nature 2020
URL: https://doi.org/10.1007/978-981-15-9682-7

4) A Joshi, N Day, and **KC Santosh**: ‡Intelligent Systems and Methods to Combat COVID-19, *Springer Briefs in Applied Sciences and Technology* ISBN: 978-981-15-6571-7 (print), 978-981-15-6572-4 (online) (2020)
URL: https://doi.org/10.1007/978-981-15-6572-4

+ *2018: - 2019:* ①⋆*Authored and* ②‡*Edited*

3) Sk Obaidullah, **KC Santosh**, N Das, K Roy, and T Goncalves: ‡Document Processing using Machine Learning, *CRC Press* ISBN: 978-036-72-1847-8 (2019)
URL: https://doi.org/10.1201/9780429277573

2) **KC Santosh**, S Antani, DS Guru, and N Dey: ‡Medical Imaging: Artificial Intelligence, Image Recognition, and Machine Learning Techniques, *CRC Press*, ISBN 978-036-71-3961-2 (2019)
URL: https://doi.org/10.1201/9780429029417

1) **KC Santosh**: ⋆Document Image Analysis: Current Trends and Challenges in Graphics Recognition, *Springer Nature*, eISBN: 978-981-13-2339-3 and print ISBN: 978-981-13-2338-6, Springer (2018)
URL: https://doi.org/10.1007/978-981-13-2339-3

D. Editor for Journal Issues and Conference Proceedings (year-wise)

- A Vacavant, R Strand, PK Saha, **KC Santosh**, and M Mahmud: †PR4BioImaging: Pattern Recognition for Biomedical Quantitative Imaging, *Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization*, Taylor & Francis (2023) - *on-going*

- **KC Santosh**: †Explainable and/or Interpretable AI for Biomedical and Health Informatics, *International Journal of Pattern Recognition & Artificial Intelligence* (IJPRAI), World Scientific (2023) - *on-going*
URL: https://www.worldscientific.com/page/ijprai/callforpapers01

- **KC Santosh** et al.: Recent Trends in Image Processing and Pattern Recognition, *Electronics*, MDPI (2023) - *on-going*
URL: https://www.mdpi.com/journal/electronics/special_issues/Q4D1SD82MD

+ *2023:* ①†*Journal issue and* ②‡*Conference proceedings*

25) **KC Santosh** and S Antani: †Multimodal Learning in Medical Imaging and Informatics, IEEE *Journal of Biomedical & Health Informatics*, (2023)
URL: https://ieeexplore.ieee.org/document/10063195

24) AE Hassanien, A Haqiq, AT Azar, **KC Santosh**, MA Jabbar, A Slowik, P Subashini: ‡Artificial Intelligence and Computer Vision (Conference Proceedings), Morocco, March 5-7 (2023). *Lecture Notes on Data Engineering and Communications Technologies* 164, Springer 2023, ISBN 978-3-031-27761-0
URL: https://doi.org/10.1007/978-3-031-27762-7

23) K Patel, **KC Santosh**, A Patel, A Ghosh: ‡Soft Computing and Its Engineering Applications (Conference Proceedings), Changa, Anand, India, December 9–10 (2022), ISBN 978-3-031-27609-5
URL: https://doi.org/10.1007/978-3-031-27609-5

+ *2022:* ④†*Journal issues and* ②‡*Conference proceedings*

22) R Sicilia, L Shen, A González, **KC Santosh**, and Peter Lucas: †35th CBMS 2022: Mining healthcare: AI and machine learning for biomedicine, *Artificial Intelligence in Medicine*, Elsevier (2022)

21) **KC Santosh** et al: †Special Issue – Recent Trends in Image Processing and Pattern Recognition, In journals: *Journal of Imaging, Applied Sciences, Healthcare, Big Data and Cognitive Computing, and Entropy*, MDPI (2022)
URL: https://www.mdpi.com/topics/IPPR

20) A R Gonzalez, **KC Santosh**, L Shen, R Sicilia, J R Almeida: [†]Computer-Based Medical Systems, *Healthcare*, MDPI (2022)
URL: https://www.mdpi.com/journal/healthcare/special_issues/CBMSS

19) **KC Santosh**: [†]Advances in applied image processing & pattern recognition, *SN Computer Science*, Springer (2021)
URL: https://link.springer.com/journal/42979/topicalCollection/AC_74d9087b4d84998dab023831481a8b8d/page/1

18) **KC Santosh** et al: [‡]Recent trends in image processing and pattern recognition (Conference proceedings), *Communications in Computer and Information Science, book series*, Springer Nature, (2022)
URL: https://doi.org/10.1007/978-3-031-23599-3

17) L Shen, A R Gonzalez, **KC Santosh**, Z Lai, R Sicilia, J R Almeida, B Kane: [‡]35th Symposium on Computer-based Medical Systems Proceedings: *IEEE Xplore*, Shenzhen, China (2022)
URL: https://doi.org/10.1109/CMBS55023.2022

____

+ _2021:_ (3) [†]*Journal issues and* (1) [‡]*Conference proceeding*

16) D Jain, **KC Santosh**, and L Zhang: [†]Advanced Medical Diagnostic Methods to Identify Cancerous and Non-Cancerous Tumors, *Journal of Healthcare Engineering*, Hindawi (2021)

15) **KC Santosh** et al: [†]AI and Deep Learning Trends in Healthcare, *SN Computer Science*, Springer (2021)
URL: https://link.springer.com/journal/42979/topicalCollection/AC_126ecde17f895eceb0b5ed87ad1f9ad4/page/1

14) J-C Burie, A Fornes, **KC Santosh**, and M Luqmann: [†]Deep learning for graphics recognition: document understanding and beyond, *Int. Journal of Document Analysis & Recognition*, Springer (2021)
URL: https://doi.org/10.1007/s10032-021-00372-6

13) **KC Santosh** et al.: [‡]Recent trends in image processing and pattern recognition (Conference), *Communications in Computer and Information Science, book series*, Springer Nature (2021)
URL: https://doi.org/10.1007/978-3-031-07005-1

____

+ _2020:_ (3) [†]*Journal issues and* (3) [‡]*Conference proceedings*

12) **KC Santosh** and S Antani: [†]Recent advances on pattern recognition and machine intelligence, *Multimedia Tools & Applications*, Springer Vol 79(45) (2020)
URL: https://doi.org/10.1007/s11042-020-10093-3

11) **KC Santosh**: [†]Advances on Deep and Machine Learning for Data Mining, Knowledge Representation, and Reasoning, *International Journal of Ambient Computing and Intelligence*, (2020)

10) **KC Santosh**: [†]Natural Language Processing in Healthcare and Medical Informatics, *Information*, MDPI (2020)
URL: https://www.mdpi.com/journal/information/special_issues/NLP_Healthcare

9) **KC Santosh** and B Gawali: [‡]Recent trends in image processing and pattern recognition (Conference), *Communications in Computer and Information Science, book series*, Springer Nature, Vol. 1381 (2020)
URL: https://doi.org/10.1007/978-981-16-0507-9

8) **KC Santosh** and B Gawali: [‡]Recent trends in image processing and pattern recognition (Conference), *Communications in Computer and Information Science, book series*, Springer Nature, Vol. 1380 (2020)
URL: https://doi.org/10.1007/978-981-16-0507-9

7) A Herrera, Rodriguez **KC Santosh**, Z Temsgen, B Kane, and P Soda: [‡]33rd IEEE International Symposium on Computer Based Medical Systems, *IEEE Xplore* (2020)
URL: https://doi.org/10.1109/CBMS49503.2020

____

+ _2019:_ (3) [‡]*Conference proceedings*

6) **KC Santosh** and RS Hegadi: [‡]Recent trends in image processing and pattern recognition: a) computer vision and pattern recognition; b) machine learning and applications; and c) image processing, *Communications in Computer and Information Science, book series*, Springer Nature, Vol. 1035 (2019)
URL: https://doi.org/10.1007/978-981-13-9181-1

5) **KC Santosh** and RS Hegadi: [‡]Recent trends in image processing and pattern recognition: a) healthcare and medical imaging; and b) biometrics and applications, *Communications in Computer and Information Science, book series*, Springer Nature, Vol. 1036 (2019)
URL: https://doi.org/10.1007/978-981-13-9184-2

4) **KC Santosh** and RS Hegadi: [‡]Recent trends in image processing and pattern recognition: a) document image analysis; and b) image analysis in agriculture; and c) data mining, information retrieval and applications, *Communications in Computer and Information Science, book series*, Springer Nature, Vol. 1037 (2019)
URL: https://doi.org/10.1007/978-981-13-9187-3

____

+ _2018:_ (1) [†]*Journal issue*

3) **KC Santosh** et al: [†]Advances on speech, music and audio signal processing, *International Journal of Speech Technology*, Springer (2018)
URL: https://doi.org/10.1007/s10772-019-09606-9

2017: (1) †*Journal issue and* (1) ‡*Conference proceeding*

2) **KC Santosh**: †Recent trends in image processing and pattern recognition. *International Journal of Computer Vision and Image Processing*, Vol. 07 Issue. 02, IGI Global (2017)
URL: https://www.igi-global.com/journal/international-journal-computer-vision-image/1181

1) **KC Santosh** et al: ‡Recent trends in image processing and pattern recognition, *Communications in Computer and Information Science, book series*, Springer Nature, Vol. 709 (2017)
URL: https://doi.org/10.1007/978-981-10-4859-3

E. Peer-Reviewed Research Articles (year-wise)

Important notes

- *Books*: *ref.* Section C.
- *Edited journal issues and proceedings*: *ref.* Section D.
- *Total publications*: 250+ peer-reviewed research papers and non-peer-reviewed book chapters: 11
  To make CV short, a complete list of journal articles (year-wise) is only provided. Book chapters and conference proceedings (peer-reviewed) can be provided upon request. For a quick look, the following are the public links via publishers:
  DBLP: https://dblp.uni-trier.de/pid/17/735.html?view=by-type
  IEEE: https://ieeexplore.ieee.org/author/38104686700
  Springer: https://link.springer.com/search?dc.creator=K.%20C.%20Santosh
- *Research impact*: Cumulative impact factor = 450+ (source: 2023 JCR reports), Total citations = 7,000+, h-index = 44, and i-10 = 170+ (source: *Google Scholar*: https://scholar.google.com/citations?user=luPx18QAAAAJ&hl=en, Jan 2024)

+ 2024: (1) *journal articles,* (0) *book chapters and* (11) *conference proceedings*

104) A Vettoruzzo, MR Bouguelia, J Vanschoren, T Rögnvaldsson and **KC Santosh**. Advances and Challenges in Meta-Learning: A Technical Review, *IEEE Transactions on Pattern Analysis & Machine Intelligence* (2024)
URL: https://doi.org/10.1109/TPAMI.2024.3357847
- *Conference proceedings:* IEEE CAI (3), CIPR (3), RTIP2R (2), CVMI (3)

+ 2023: (9) *journal articles,* (0) *book chapters and* (7) *conference proceedings*

103) D GhoshRoy, PA Alvi, **KC Santosh**. Leveraging sampling schemes on skewed class distribution to enhance male fertility detection with ensemble AI learners, *International Journal of Artificial Intelligence Tools*, World Scientific (2023)
URL: https://doi.org/10.1142/S0218001424510030

102) H Mukherjee, A Dhar, Sk Md Obaidullah, **KC Santosh**, S Phadikar, K Roy, and U Pal. LIFA: Language Identification From Audio with LPCC-G Features, *Multimedia Tools & Applications*, Springer (2023)
URL: https://doi.org/10.1007/s11042-023-17782-9

101) **KC Santosh**, D GhoshRoy, S Nakarmi. A Systematic Review on Deep Structured Learning for COVID-19 Screening Using Chest CT from 2020 to 2022, *Healthcare*, MDPI (2023)
URL: https://doi.org/10.3390/healthcare11172388

100) D Sawat, RS Hegadi, and **KC Santosh**. Integrating Statistical Representation Layer with Deep Convolutional Neural Network for Face Recognition, *Image, Vision, and Computing*, Elsevier (2023)

99) D Ghoshroy, PA Alvi, and **KC Santosh**. Unboxing industry-standard AI models for male fertility pre-diction with SHAP, *Artificial Intelligence in Medicine, Healthcare*, MDPI (2023)
URL: https://doi.org/10.3390/healthcare11070929

98) A Makkar and **KC Santosh**. SecureFed: Federated learning empowered medical imaging technique to analyze lung abnormalities in chest x-rays,*International Journal of Machine Learning and Cybernetics*, Springer (2023)
URL: https://doi.org/10.1007/s13042-023-01789-7

97) N Das, **KC Santosh**, L Shen, S Chakraborty. Cervical Cancerous Cell Classification: Opposition-based Harmony Search for Deep Feature Selection, *International Journal of Machine Learning & Cybernetics*, Springer (2023)
URL: https://doi.org/10.1007/s13042-023-01872-z

96) D Ghoshroy, PA Alvi, and **KC Santosh**. AI Tools for Assessing Human Fertility using Risk Factors: A State-of-the-Art Review, *Journal of Medical Systems*, Springer (2023)
URL: https://doi.org/10.1007/s10916-023-01983-8

95) S Roy and **KC Santosh**. Analyzing Non-biological Foreign Objects in Chest X-rays – Clinical Significance and AI tools, *Healthcare*, MDPI (2023)

URL: https://doi.org/10.3390/healthcare11030308

94) D Ghoshroy, PA Alvi, and **KC Santosh**. eXplainable AI to predict male fertility using extreme gradient boosting algorithm with SMOTE, *Electronics* – Feature Papers in Computer Science & Engineering, MDPI (2023)
URL: https://doi.org/10.3390/electronics12010015
- *Conference proceedings:* IEEE CAI (4), RTIP2R (3)

+ <u>*2022:*</u> (10) *journal articles,* (0) *book chapters and* (10) *conference proceedings*

93) T Ghosh, S Sen, Sk Md Obaidullah, **KC Santosh**, K Roy, and U Pal. Advances in Online Handwritten Recognition in the last decades, *Computer Science Review*, Elsevier (2022)
URL: https://doi.org/10.1016/j.cosrev.2022.100515

92) **KC Santosh**, S Allu, S Rajaraman, S Antani: Advances in Deep Learning for Tuberculosis Screening using Chest X-rays: The last 5-Year Systematic Review, *Journal of Medical Systems*, Springer (2022)
URL: https://doi.org/10.1007/s10916-022-01870-8

91) **KC Santosh** and S Ghosh. Covid-19 versus Lung Cancer: Understanding chest CT images through Deep Ensemble Neural Networks, *International Journal of Artificial Intelligence Tools*, World Scientific (2022)
URL: https://doi.org/10.1142/S021821302250049X

90) S Raman, V Gupta, P Nagrath, and **KC Santosh**. Hate and aggression analysis in NLP using interpretable AI, *International Journal of Pattern Recognition and Artificial Intelligence*, World Scientific (2022)

89) **KC Santosh**, N Rasmussen, M Mamun, S Aryal. A systematic review on cough sound analysis for Covid-19 diagnosis and screening: is my cough sound COVID-19?, *PeerJ Computer Science*, (2022)
URL: https://doi.org/10.7717/peerj-cs.958

88) F Alenezia, A Armghana, **KC Santosh.** Underwater image dehazing using global color features, *Engineering Applications of Artificial Intelligence*, Elsevier (2022)
URL: https://doi.org/10.1016/j.engappai.2022.105489

87) Md S Kamal, L Chowdhury, S Hasan, N Dey, and **KC Santosh**. Explainable AI for Glaucoma Prediction Analysis to Understand Risk Factors in Treatment Planning, *IEEE Transactions on Instrumentation & Measurement* (2022)
URL: https://doi.org/10.1109/TIM.2022.3171613

86) S Pandey, V Chouhan, D Verma, S Rajrah, R Saini, and **KC Santosh**. Do-It-Yourself Recommender System: Reusing and Recycling with Blockchain and Deep Learning, *IEEE Access* (2022)
URL: https://doi.org/10.1109/ACCESS.2022.3199661

85) **KC Santosh** and S Ghosh, D GhoshRoy. Deep Learning for Covid-19 Screening using Chest X-rays in 2020: A Systematic Review, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific (2022)
URL: https://doi.org/10.1142/S0218001422520103

84) Md Kawsher, M Biswas, L Gaur, F Alenezi, and **KC Santosh**. Deep Features to Detect Pulmonary Abnormalities in Chest X-rays due to Infectious DiseaseX: Covid-19, Pneumonia, and Tuberculosis, *Information Sciences*, Vol 492, Elsevier (2022)
URL: https://doi.org/10.1016/j.ins.2022.01.062
- *Conference proceedings:* CBMS (2), CVMI (1) and RTIP2R (7)

+ <u>*2021:*</u> (17) journal articles, (0) book chapters and (15) conference proceedings

83) TJ Bosch, R Barsainya, A Ridder, **KC Santosh**, and A Singh. Interval timing and midfrontal delta oscillations are impaired in Parkinson's disease patients with freezing of gait. *Journal of Neurology*, Springer (2021).
URL: https://doi.org/10.1007/s00415-021-10843-9

82) **KC Santosh**: Current Trends in Image Processing and Pattern Recognition. *Frontiers in Robotics and AI*, 8:785075 (2021)
URL: https://doi.org/10.3389/frobt.2021.785075

81) V Gupta, **KC Santosh**, R Arora, T Ciano, KS Kalid, S Mohan. Socioeconomic impact due to COVID-19: An empirical assessment," *Information Processing and Management*, 59: 102810, Elsevier ((2021)
URL: https://doi.org/10.1016/j.ipm.2021.102810

80) S Majumder, S Chowdhury, N Dey, and **KC Santosh**. Balance Your Work-Life: Personal Interactive Web-Interface. *International Journal Of Interactive Multimedia And Artificial Intelligence*, 1-7 (2021)
URL: http://doi.org/10.9781/ijimai.2021.08.016

79) **KC Santosh** and S Ghosh: Covid-19 medical imaging tools: how big data is big? *Journal of Medical Systems*, Springer (2021)
URL: https://doi.org/10.1007/s10916-021-01747-2

78) J-C Burie, A Fornées, **KC Santosh**, and MM Luqman: Deep learning for graphics recognition: document understanding and beyond. Int. J. Document Anal. Recognit. 24(1): 1-2 (2021)
URL: https://doi.org/10.1007/s10032-021-00372-6

77) A Koilada, N Das and **KC Santosh**: Cervical Cancerous Cell Classification: Opposition-based Harmony Search for Deep Features Selection, *Engineering Applications of Artificial Intelligence*, Elsevier (2021)
URL: https://doi.org/10.1016/j.engappai.2021.104202

76) H Mukherjee, H Salam and **KC Santosh**: Lung Health Analysis: Adventitious Respiratory Sound Classification Using Filterbank Energies, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific (2021)
URL: https://doi.org/10.1142/S0218001421570081

75) S Ghosh, A Chaki, and **KC Santosh**: Improved U-Net architecture with VGG-16 for brain tumor segmentation, *Physical and Engineering Sciences in Medicine*, Springer (2021)
URL: https://doi.org/10.1007/s13246-021-01019-w

74) P Pirasteh, MR Bouguelia, and **KC Santosh**: Personalized Recommendation: An Enhanced Hybrid Collaborative Filtering, Advances in Computational Intelligence, Springer (2021)
URL: https://doi.org/10.1007/s43674-021-00001-z

73) N Jain, V Gupta, **KC Santosh**: Understanding Cartoon Emotion using Integrated Deep Neural Network on Large Dataset, *Neural Computing and Applications*, Springer (2021)
URL: https://doi.org/10.1007/s00521-021-06003-9

72) M Ghosh, H Mukherjee, Obaidullah Sk, **KC Santosh**, N Das, Kaushik Roy: LWSINet: A deep learning-based approach towards video script identification, *Multimedia tools and applications*, Springer (2021)
URL: https://doi.org/10.1007/s11042-021-11103-8

71) M Ghosh, S Roy, H Mukherjee, Sk Md Obaidullah, **KC Santosh**, and K Roy: Understanding movie poster: Transfer-deep learning approach for graphic-rich text recognition, *The Visual Computer*, Springer (2021)
URL: https://doi.org/10.1007/s00371-021-02094-6

70) Md N Yousuf Ali, Md L Rahman, J Chaki, N Dey, and **KC Santosh**: Machine Translation using Deep Learning for Universal Networking Language based on their Structure, *International Journal of Machine Learning & Cybernetics*, Springer (2021)
URL: https://doi.org/10.1007/s13042-021-01317-5

69) F Aleneziand **KC Santosh**: Geometric Regularized Hopfield Neural Network for Medical Image Enhancement, International Journal of Biomedical Imaging, (2021)
URL: https://doi.org/10.1155/2021/6664569

68) S Ghosh, A Bandyopadhyay, S Sahay, R Ghosh; I Kundu, and **KC Santosh**: Colorectal Histology Tumor Detection using Ensemble Deep Neural Network, *Engineering Applications of Artificial Intelligence*, Elsevier (2021)
URL: https://doi.org/10.1016/j.engappai.2021.104202

67) D Ruikar, **KC Santosh**, R Hegadi, L Rupnar, V Chaudhary: $5K^+$ CT Images on Fractured Limbs: A Dataset for Medical Imaging Research, *Journal of Medical Systems*, Springer (2021)
URL: https://doi.org/10.1007/s10916-021-01724-9

- *Conference proceedings:* CCIB(1), CBMS(4), IJCNN (1), AMLDA(1), and RTIP2R(11)

――――-

+ *2020:* ⑱ *journal articles,* ② *book chapters and* ⑭ *conference proceedings*

66) B Cankaya, B Eren Tokgoz, A Dag, and **KC Santosh**: Development of a Machine-Learning-Based Decision Support Mechanism for Predicting Chemical Tanker Cleaning Activity, *Journal of Modelling in Management*, (2020)

65) H Mukherjee, P Sreerama, K Roy, Z Temesgen, and **KC Santosh**: Automatic lung health screening using respiratory sounds, *Journal of Medical Systems*, Springer (2020)
URL: https://doi.org/10.1007/s10916-020-01681-9

64) A Maiti, B Chaterjee, and **KC Santosh**: Skin Cancer Classification through Quantized color features and Generative Adversarial Network, *International Journal of Ambient Computing and Intelligence* (2020).

63) H Mukherjee, A Dhar, Sk Obaidullah, **KC Santosh**, S Phadikar, and Kaushik Roy: Identifying Language from Songs, *Multimedia tools and applications*, Springer (2020)
URL: https://doi.org/10.1007/s11042-020-10163-6

62) A Banerjee, N Das, and **KC Santosh**: Weber Local Descriptor for Image Analysis and Recognition: A Review, *The Visual Computer*, Springer (2020)
URL: https://doi.org/10.1007/s00371-020-02017-x

61) H Mukherjee, S Ghosh, A Dhar, Sk Obaidullah, **KC Santosh**, K Roy: Shallow Convolutional Neural Networks for COVID-19 Outbreak Screening using Chest X-rays, *Cognitive Computation*, Springer (2020)
URL: https://doi.org/10.1007/s12559-020-09775-9

60) H Mukherjee, S Ghosh, A Dhar, Sk Obaidullah, **KC Santosh**, K Roy: Deep Neural Network to Detect COVID-19: One Architecture for both Chest X-rays and CT Scans, *Applied Intelligence*, Springer (2020)
URL: https://doi.org/10.1007/s10489-020-01943-6

59) HR Bhapkar P Mahalle, N Dey, **KC Santosh**: Revisited COVID-19 mortality and recovery rates: are we missing recovery time period? *Journal of Medical Systems*, Springer (2020)
URL: https://doi.org/10.1007/s10916-020-01668-6

58) S Aryal, **KC Santosh**, and R Dazeley: usfAD: A robust unsupervised stochastic forest-based anomaly detector *International Journal of Machine Learning & Cybernetics*, Springer (2020)
URL: https://doi.org/10.1007/s13042-020-01225-0

57) N Dey, **KC Santosh**: COVID-19: Psychological and Psychosocial Impact, Fear, and Passion, *Digital Government: Research and Practice*, ACM (2020)
URL: https://doi.org/10.1145/3428088

56) S Mitra, **KC Santosh**, and MK Naskar: Niblack Binarization on Document Images: Area Efficient, Low Cost, and Noise Tolerant Stochastic Architecture, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific (2020)
URL: https://doi.org/10.1142/S0218001421540136

55) **KC Santosh**: COVID-19 Prediction Models and Unexploited Data, *Journal of Medical Systems*, Springer Vol. 44 (2020)
URL: https://doi.org/10.1007/s10916-020-01562-1

54) **KC Santosh**: AI-driven tools for coronavirus outbreak: Need of active learning and cross-population train/test models on multitudinal/multimodal data, *Journal of Medical Systems*, Springer Vol. 44 (2020)
URL: https://doi.org/10.1007/s10916-020-01562-1
Highly cited paper – top 1% in academic clinical medicine (source: Web of Science)

53) D Das, **KC Santosh**, and U Pal: Truncated Inception Net: COVID-19 Outbreak Screening using Chest X-rays, *Physical and Engineering Sciences in Medicine*, Springer (2020)
URL: https://doi.org/10.1007/s13246-020-00888-x
Highly cited paper – top 1% in the academic field of engineering (source: Web of Science)

52) D Elliott, **KC Santosh**, and C Anderson: Gradient boosting in crowd ensembles for Q-learning using weight sharing, *International Journal of Machine Learning & Cybernetics*, Springer (2020)
URL: https://doi.org/10.1007/s13042-020-01115-5

51) S Das, Sk Md Obaidullah, **KC Santosh**, K Roy, and C K Saha: Cardiotocograph-based labor stage classification from uterine contraction pressure during ante-partum and intra-partum period - a fuzzy theoretic approach, *Health Information Science and Systems*, Springer (2020)
URL: https://doi.org/10.1007/s13755-020-00107-7

50) R Guha, N Das, M Kundu, M Nasipuri, and **KC Santosh**: DevNet: an efficient CNN architecture for handwritten Devanagari character recognition, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific, 2020
URL: https://doi.org/10.1142/S0218001420520096

49) S Aryal, AA Baniya, and **KC Santosh**: A Novel Data Pre-processing Technique: Making Data Mining Robust to Different Units and Scales of Measurement, *The Australian Journal of Intelligent Information Processing Systems* (2020)
• *Book chapter:* Medical imaging and COVID-19 (2)
• *Conference proceedings:* ICPR (1), CBMS (5), and RTIP2R (7, best paper award (1)) CVIP(1).

+ *2019:* ⑪ *journal articles,* ⑥ *book chapters, and* ㉗ *conference proceedings*

48) S Ghosh, A Pal, S Jaiswal, **KC Santosh**, N Das, and M Nassipuri: segFast-02: Semantic-based image segmentation using encoder-decoder compression architecture, *International Journal of Machine Learning & Cybernetics*, Springer (2019)
URL: https://doi.org/10.1007/s13042-019-01005-5

47) H Mukherjee, Sk Md Obaidullah **KC Santosh**, S Phadikar, and K Roy: Deep learning for spoken language identification: Can we visualize speech signal patterns?, *Neural Computing and Applications*, Springer (2019)
URL: https://doi.org/10.1007/s00521-019-04468-3

46) A Jagtap, RS Hegadi, and **KC Santosh**: Feature Learning for Offline Handwritten Signature Verification Using Convolutional Neural Network, *International Journal of Technology and Human Interaction (IJTHI)*, 15(4) (2019)
URL: https://doi.org/10.4018/IJTHI.2019100105

45) H Mukherjee, A Dhar, Sk Md Obaidullah, **KC Santosh**, S Phadikar, and K Roy: Linear predictive coefficients-based feature to identify top-7 spoken language, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific (2019)
URL: https://doi.org/10.1142/S0218001420580069

44) S Ukil, S Ghosh, Sk Md Obaidullah, **KC Santosh**, K Roy, and N Das: Improved word level handwritten Indic script identification through integrated small convolutional neural networks, *Neural Computing and Applications*, Springer (2019)
URL: https://doi.org/10.1007/s00521-019-04111-1

43) D Ruikar, **KC Santosh**, and RS Hegadi: Automated fractured bone segmentation and labeling from CT images, *Journal of Medical Systems*, Springer (2019)
URL: https://doi.org/10.1007/s10916-019-1176-x

42) H Mukherjee, Sk Md Obaidullah **KC Santosh**, S Phadikar, and K Roy: A lazy learning-based language identification from speech using MFCC-2 features, *International Journal of Machine Learning & Cybernetics*, Springer (2019)
URL: https://doi.org/10.1007/s13042-019-00928-3

41) R Saini, P Kumar, B Kaur, P P Roy, D P Dogra, and **KC Santosh**: Kinect sensor-based interaction monitoring system using the BLSTM neural network in healthcare, *International Journal of Machine Learning & Cybernetics*, Springer (2019)
URL: https://doi.org/10.1007/s13042-018-0887-5

40) S Vaidya, C Mouli, and **KC Santosh**: Imperceptible watermark for a game-theoretic watermarking system, *International Journal of Machine Learning & Cybernetics*, Springer (2019)
URL: https://doi.org/10.1007/s13042-018-0813-x

39) Sk Md Obaidullah, **KC Santosh**, C Halder, N Das, and K Roy: Automatic Indic script identification from handwritten documents: page, block, line and word-level approach, *International Journal of Machine Learning & Cybernetics*, Springer (2019)
URL: https://doi.org/10.1007/s13042-017-0702-8

38) **KC Santosh**: Speech processing in healthcare: can we integrate?, *Intelligent speech signal processing*, Elsevier press, ISBN: 978-0-12-818130-0 (2019)
URL: https://doi.org/10.1016/B978-0-12-818130-0.00001-5

  ● *Book chapters:* Medical Imaging (3) and Document processing (3).

  ● *Conference proceedings:* PReMI (1), ICICC (2, best paper award), GREC@ICDAR (2), ICCDC (2), CACCS (1), RTIP2R (15, best paper award), and AISC (2).

+ *2018:* (14) *journal articles and* (6) *conference proceedings*

37) **KC Santosh** and S Antani: Automated chest X-ray screening: can lung section symmetry help detect pulmonary abnormalities? *IEEE Transactions on Medical Imaging* (2018)
URL: https://doi.org/10.1109/TMI.2017.2775636

36) **KC Santosh** and L Wendling: Angular relational signature-based chest radiograph image view classification, *Medical & Biological Engineering & Computing*, Springer (2018)
URL: https://doi.org/10.1007/s11517-018-1786-3

35) S F Nimmy, G Sarowar, N Dey, A Ashour, and **KC Santosh**: Investigation of DNA discontinuity for detecting Tuberculosis, *Journal of Ambient Intelligence and Humanized Computing*, Springer (2018)
URL: https://doi.org/10.1007/s12652-018-0878-0

34) D Ruikar, RS Hegadi, **KC Santosh**: A Systematic Review on Orthopedic Simulators for Psycho-Motor Skill and Surgical Procedure Training, *Journal of Medical Systems*, Springer (2018)
URL: https://doi.org/10.1007/s10916-018-1019-1

33) S Vajda, A Karagyris, S Jaeger, **KC Santosh**, S Candemir, Z Xue, S Antani, and G Thoma: Feature Selection for Automatic Tuberculosis Screening in Frontal Chest Radiographs, *Journal of Medical Systems*, Springer (2018)
URL: https://doi.org/10.1007/s10916-018-0991-9

32) H Mukherjee, Sk Md Obaidullah, **KC Santosh**, S Phadikar, and K Roy: Line spectral frequency-based features and extreme learning machine for voice activity detection from audio signal, *International Journal of Speech Technology*, Springer, (2018)
URL: https://doi.org/10.1007/s10772-018-9525-6

31) Sk Md Obaidullah, A Bose, H Mukherjee, **KC Santosh**, N Das, and K Roy: Extreme learning machine for handwritten Indic script identification in multi-script documents, *Journal of Electronic Imaging*, SPIE (2018)
URL: https://doi.org/10.1117/1.JEI.27.5.051214

30) Sk Md Obaidullah, C Halder, **KC Santosh**, N Das, and K Roy: Handwritten Indic script identification in multi-script document images: A survey, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific (2018)
URL: https://doi.org/10.1142/S0218001418560128

29) C Halder, Sk Md Obaidullah, **KC Santosh**, and K Roy: Content independent writer identification on Bangla script: A document level approach, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific (2018)
URL: https://doi.org/10.1142/S0218001418560116

28) Sk Md Obaidullah, C Halder, **KC Santosh**, N Das, and K Roy: PHDIndic_11: Page-level handwritten document image dataset of 11 official Indic scripts for script identification, *Multimedia tools and applications*, Springer (2018)
URL: https://doi.org/10.1007/s11042-017-4373-y

27) **KC Santosh**: Correspondence: Edge map analysis in chest X-rays for automatic pulmonary abnormality screening, *Indian Journal of Tuberculosis*, Elsevier, 64(2) (2018)
URL: https://doi.org/10.1016/j.ijtb.2016.10.001

26) Sk Md Obaidullah, N Das, **KC Santosh**, and K Roy: Automatic Line-Level Script Identification From Handwritten Document Images – A Region-Wise Classification Framework For Indian Subcontinent, *Malaysian Journal of Computer Science* (2018)
URL: http://mjcs.fsktm.um.edu.my/detail.asp?AID=1717

25) **KC Santosh** and P Roy: Arrow detection in biomedical images using sequential classifier, *International Journal of Machine Learning and Cybernetics*, Springer (2018)
URL: https://doi.org/10.1007/s13042-016-0623-y

24) M Bouguelia, S Nowaczyk, and **KC Santosh**: Antanas Verikas. Agreeing to disagree: active learning with noisy labels without crowdsourcing, *International Journal of Machine Learning & Cybernetics*, Springer (2018)
URL: https://doi.org/10.1007/s13042-017-0645-0

● *Conference proceedings:* SPIE Medical Imaging (1), ICRCICN (1), ICSKIMA (1), ICICBA (1), and AISC (3).

+ *2017:* ⑤ *journal articles and* ⑦ *conference proceedings*

23) **KC Santosh**, A. Aafaque, S Antani, G Thoma: Line segment-based stitched multipanel figure separation for effective biomedical CBIR, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific (2017)
URL: https://doi.org/10.1142/S0218001417570038

22) **KC Santosh** and S Vajda: 'Automated chest X-ray screening: can edge map measure the evidence of pulmonary abnormalities?',
Atlas of Science (June 02, 2016)
URL: https://atlasofscience.org/automated-chest-x-ray-screening-can-edge-map-measure-the-evidence-of-pulmonary-disease/

21) F Zohora and **KC Santosh**: Foreign Circular Element Detection in Chest X-rays for Effective Automated Pulmonary Abnormality Screening, *International Journal of Computer Vision and Image Processing*, 7(2) (2017)
URL: https://doi.org/10.4018/IJCVIP.2017040103

20) Sk Md Obaidullah, **KC Santosh**, C Halder, N Das, and K Roy: Word-level Multi-script Indic Document Image Dataset and Baseline Results on Script Identification, *International Journal of Computer Vision and Image Processing*, 7(2) (2017)
URL: https://doi.org/10.4018/IJCVIP.2017040106

19) Sk Md Obaidullah, C Goswami, **KC Santosh**, N Das, C Halder, and K Roy: Separating Indic scripts with mantra for effective handwritten script identification in multiscript documents, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific (2017)
URL: https://doi.org/10.1142/S0218001417530032

● *Conference proceedings:* RTIP2R (7, best paper award (1)).

+ *2016:* ④ *journal articles and* ③ *conference proceedings*

18) **KC Santosh**, S Vajda, S Antani, and G Thoma: Edge map analysis in Chest X-rays for Automatic Abnormality Screening, *International Journal of Computer Assisted Radiology & Surgery*, Springer (2016)
URL: https://doi.org/10.1007/s11548-016-1359-6

17) **KC Santosh**, N Alam, P Roy, L Wending, S Antani, and G Thoma: A Simple and Efficient Arrowhead Detection in Biomedical Images, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific (2016)
URL: https://doi.org/10.1142/S0218001416570020

16) **KC Santosh**, L Wendling, S Antani, and G Thoma: Overlaid Arrow Detection for Labeling Biomedical Image Regions, *IEEE Intelligent Systems*, (special issue: Pattern Recognition) (2016)
URL: http://ieeexplore.ieee.org/document/7412613/

15) A Karargyris, J Siegelman, D Tzortzis, S Jaeger, S Candemir, Z Xue, **KC Santosh**, S Vajda, S Antani, L Folio, and G Thoma: Combination of texture and shape features to detect Tuberculosis in digital chest X-rays, *International Journal of Computer Assisted Radiology & Surgery*, Springer (2016)
URL: https://doi.org/10.1007/s11548-015-1242-x

● *Conference proceedings:* DRR (1), CVIP (1), and ICISO (1).

——

+ **_2015:_** ⑤ _journal articles and_ ③ _conference proceedings_

14) **KC Santosh**: g-DICE: Graph mining-based Document Information Content Exploitation, *International Journal on Document Analysis and Recognition*, Springer, 18(4):337 – 355 (2015)
URL: https://doi.org/10.1007/s10032-015-0253-z

13) **KC Santosh**, S Candemir, S Jaeger, S Antani, G Thoma, and L Folio: Automatically Detecting Rotation in Chest Radiographs using Principal Rib-Orientation Measure for Quality Control, *International Journal of Pattern Recognition & Artificial Intelligence*, World Scientific, 29(2), 19 pages (2015)
URL: https://doi.org/10.1142/S0218001415570013

12) **KC Santosh** and L Wending: Character recognition based on Multi-projection Non-linear Profiles Measure, *Frontiers of Computer Science*, Springer, 9(5): 678–690, (2015)
URL: https://doi.org/10.1007/s13042-014-0234-4

11) **KC Santosh** and L Wendling: Graphical Symbol Recognition, *Wiley Encyclopedia of Electrical and Electronics Engineering*, pp. 1-22 (2015)
URL: https://doi.org/10.1002/047134608X.W8260

10) S Candemir, E Borovikov **KC Santosh**, S Antani, and G Thoma: RSILC: Rotation and Scale Invariant, Line Colour aware Descriptor, *Image and Vision Computing* 42:(1–11) (2015)
URL: https://doi.org/10.1016/j.imavis.2015.06.010

9) E Philippot, **KC Santosh**, A Belaïd, and Y Belaïd: Bayesian Networks for Incomplete Data Analysis in Form Processing, *International Journal of machine Learning & Cybernetics*, Springer, 6(3):347-363, (2015)
URL: https://doi.org/10.1007/s13042-014-0234-4

● *Conference proceedings:* ImageCLEF (1) and CBMS (2).

——

+ **_2005 – 2014:_** ⑧ _journal articles,_ ① _book chapter, and_ ⑲ _conference proceedings_

8) **KC Santosh**, L Wending, and B Lamiroy: BoR: Bags-of-Relations for Symbol Retrieval, *International Journal of Pattern Recognition and Artificial Intelligence*, World Scientific, 28(6):30 pages (2014)
URL: https://doi.org/10.1142/S0218001414500177

7) **KC Santosh**, B Lamiroy, and L Wendling: Integrating Vocabulary Clustering with Spatial Relations for Symbol Recognition, *International Journal of Document Analysis and Application*, Springer, 17(1):61-78, (2014) *the most popular publication (no. 1) in April 2014*
URL: https://doi.org/10.1007/s10032-013-0205-4

6) **KC Santosh**, L Wendling, and B Lamiroy: DTW–Radon Shape Descriptor for Pattern Recognition, *International Journal of Pattern Recognition and Artificial Intelligence*, World Scientific, 27(2):30 pages (2013)
URL: https://doi.org/10.1142/S0218001413500080

5) **KC Santosh**, C Nattee, and B Lamiroy: Relative Positioning of Stroke Based Clustering: A New Approach to On-line Handwritten Devanagari Character Recognition, *International Journal of Image & graphics* (**IJIG**), World Scientific, 12(2), 25 pages (2012) *the most read (no. 1) articles in October, 2012*
URL: https://doi.org/10.1142/S0219467812500167

4) **KC Santosh**, B Lamiroy, and L Wendling: Symbol Recognition using Spatial Relations, *Pattern Recognition Letters* (**PRL**), Elsevier, 33(3): 331-341 (2012)
URL: https://doi.org/10.1016/j.patrec.2011.09.040

3) **KC Santosh**: Use of Dynamic Time Warping for Object Shape Classification through Signature, *Kathmandu University Journal of Science, Engineering and Technology*, 6(1): 33-49 (2010)
URL: https://www.nepjol.info/index.php/KUSET/article/view/3308/2848

2) **KC Santosh** and C Nattee: A Comprehensive Survey on On-line Handwriting Recognition Technology and its Real Application to the Nepalese Natural Handwriting, *Kathmandu University Journal of Science, Engineering and Technology* 5(1): 31-55 (2009)
URL: https://hal.inria.fr/inria-00354242v2

1) **KC Santosh** and C Nattee: Template-based Nepali Handwritten Alphanumeric Character Recognition, *Thammasat International Journal of Science and Technology* 12 (1), 20-30 (2009)
URL: https://www.tci-thaijo.org/index.php/SciTechAsia/article/view/41524

● *Conference proceedings* (2014): ICPR (1), CBMS (1), ICFHR (1), and RAIT (1).
● *Conference proceedings* (2013): ICDAR (3), MVA (2), and IbPRIA (1).
● *Book chapter* (2012): INTECH (1)
● *Conference proceeding* (2012): GREC (1)
● *Conference proceedings* (2011): ICDAR (1), ACIVS (1), and GREC (1).

- *Conference proceedings* (2010): ICFHR (1), ICPR (1), and GREC (1).
- *Conference proceedings* (2009): ICDAR (1), EGC (1), and GREC (1).
- *Conference proceedings*(2006): KICSS (1, best paper award), PRICAI (1), and CIS (1).

_____

F. Research Talks

Important note: The following list are limited to invited talks, keynote addresses, and distinguished lectures at international conferences/symposia and universities. Regular conference presentations are not considered. The audience size for all talks is an approximation, not a precise number.

____

Upcoming and confirmed

85) Sustainable AI solutions for medical imaging informatics. Computational Neuroscience, Neurotechnology and Neuro-inspired AI Summer School, Ulster university, UK (*August 26-30, 2024*)

84) Human-in-loop machine learning – how big data is big to begin with? International Conference on Multimedia Analysis and Pattern Recognition, Vietnam (*August 15-16, 2024*)

83) #Generative AI, Big Data, and Carbon Footprint. Amity University - Delhi, India (*June 30, 2024*)

____

+ ### *2024:*

82) #AI and #GenerativeAI - Ethical Concerns. South Dakota State Bar Annual Convention, Pierre, South Dakota (*June 12, 2024*)

81) Chips and Science Act, Sustainable AI, and the Future. IEEE-USA Innovation, Workforce, and Research Conference, South Dakota (*June 11-12, 2024*)

80) #AIforAll, but how about carbon footprint? TEDx Talk – USD, South Dakota (*April 07, 2024*)

79) Explainable AI (xAI): who to blame – data or model? 6th International Conference on Computational Intelligence and Pattern Recognition, odisha, India (March 15-16, 2024)

____

+ ### *2023:*

78) #AIforGood, but how about carbon footprint? 6th International Conference on Recent Trends in Image Processing & Pattern Recognition, University of Derby, UK (*December 07-08 2023*)

77) Human-in-loop machine learning – how big data is big to begin with? 15th International Conference on Intelligent Human-Computer Interaction, South Korea (*Nov 8-10, 2023*)

76) Machine learning in healthcare - can we go beyond one-way test or automation? The University of Chicago Medicine (*September 20, 2023*)

75) Big data issue, no worries - active learning is the must! 9th IEEE International Conference on Cloud Computing and Intelligence Systems, Dali, Yunnan Province of China (*August 12-13, 2023*)

74) Responsible AI or human? MGM's Health Sciences Institute, Mumbai, India (*July 24-26 2023*)

73) Explainable AI model or data? Applied AI Workshop, Central University of Karnataka, India (*July 22-23, 2023*)

72) Machine learning for medical imaging informatics - deep or shallow? Summer School of IEEE Computational Intelligence Society on Computational Advances in Deep Learning and Applications, Indian Institute of Information Technology, Allahabad, India (*July 20, 2023*)

71) Trust me, AI is not for computer scientists! Banasthali University, India (*July 16, 2023*)

70) AI & Ethics Panel. Great Plains Network Annual Meeting, Kansas City, MO (*May 31 - 02, 2023*)

69) The Human Connection – AI, South Dakota Humanities Council (*May 25, 2023*)

68) AI/Data Science – from Healthcare to Housing Industry? Mountain Plains Housing Summit, SiouxFalls, SD (*May 08 - 10, 2023*)

67) AI is the dealbreaker – active learning! APEC symposium on ICT Skill Standards for Artificial Intelligence, Bangkok, Thailand (*May 2, 2023*)

66) AI is dealbreaker - #activelearning, #bigdata, #carbonfootprint, #sustainableAI, and #greencomputing. USD's third AI symposium, Vermillion, SD (*Mar 28, 2023*)

65) # – Utopia or dystopia? USD Utopia/Dystopia Symposium (*Feb 07, 2023*)

64) #AIforgood – Utopia or dystopia? USD Utopia/Dystopia Symposium (*Feb 07, 2023*)

63) Few-shot Learning in an #Activelearning Framework to Understand Future #Epidemics. SDSU Data Science Symposium (*Feb 06, 2023*)

____

+ ### *2022:*

62) #Activelearning to Minimize the Possible Risk from Future #Epidemics. IEEE Computer Science Society - Hyderabad section, JNTU, Hyderabad, India (*Nov 21, 2022*)

61) #MedicalImagingInformatics – #eXplainableAI. 6th International Conference on Intelligent Computing and Communication, GNITS, Hyderabad, India (*Nov 18, 2022*)

60) #eXplainableAI for #healthcare in #activelearning framework. 23rd New Frontiers in Computing Conference (NFIC 20222), IEEE Computer Society Santa Clara Valley Chapter, Silicon Valley (*Aug 13, 2022*)

59) #Activelearning in healthcare – infectious disease outbreak. International Conference on Computer Vision and Machine Intelligence (CVMI) - IIIT, Allahabad, India (*Aug 12, 2022*)

58) #AI4Healthcare – #MLinnovation should not limited to building #models, 8th International Conference on Machine Vision and Machine Learning (MVML), Prague, Czech Republic (*July 28-30, 2022*)

57) #AI for Medical Imaging Informatics – Where have We Missed #Explainability? IEEE 35th International Symposium on Computer-Based Medical Systems (CBMS 2022), Shenzhen, China (*July 23, 2022*)

56) #AIforGood and so does #machinelearning – #machinelearning for #physics and/or #physicists (case study - neutrino classification). PIRE-GEMARDAC, Queen"s University, Kingston, Canada (*June 20-28, 2022*)

55) #AI for infrastructure security – Time to think about Critical Infrastructure Security VIT, Bhopal, India (*May 17, 2022*)

54) Garbage In garbage Out (GIGO): Infectious disease outbreak prediction, 4th International Conference on Computational Intelligence, Security & IoT, India (*April 22-23, 2022*)

53) $AI for medical imaging informatics – where have we missed #explainability?, College of Engineering & Technology, East Carolina University (*March 2022, 2022*)

+ *2021:*

52) Infectious DiseaseX: #AI4Healthcare, how #BigData is big, & #Explainabilty, International Conference on, Intelligent computing and Security, India (Audience size: 170, *December 17-18, 2021*)

51) #AI, Data Science and #Covid-19, 3rd International Conference on Machine Learning and Intelligent Systems (Audience size: 120, *November 8-11, 2021*)

50) AI4healthcare: responsible AI. Multidisciplinary International Conference on Futuristic Trends for Sustainable Ecosystem, India (Audience size: 90, *August 26-28, 2021*)

49) Introducing #Activelearning to #Healthcare" VNU University of Science, Hanoi, Vietnam (Audience size: ∼300, *Oct 31, 2021*).

48) (#AI for) #Covid-19 Decision-making and Visualization, Special topic in 4th IAPR TC 10/11 Summer School on Document Analysis, Lulea University of Technology, Sweden (Audience size: 60, *August 23-27, 2021*)

47) #AI for infectious diseases: #Pneumonia, #TB and #Covid19, 2nd International Conference on Artificial Intelligence and Computer Vision (AICV2021), Morocco, (Audience size: 110, *June 28-29, 2021*)

46) Data for medical imaging tools: #COVID19; how big is big?, 3rd International Conference on Computational Intelligence in Pattern Recognition (CIPR) (Audience size: 60, *April 24-25, 2021*)

45) #AI is your future, trust me!, USD Brown Bag Research Talk Series (Audience size: 130 - national and international, *March 16, 2021*)

44) AI for COVID-19: The Largest Project in the Universe, 6th International Conference on Emerging Applications of Information Technology (EAIT) (Audience size: 150, *Feb. 25-27, 2021*)

43) Demystifying #AI on Covid-19, 5-day event – ATAL sponsored FDP on Potential Research Avenues in Computer Science and Biology (Audience size: 70, *Jan 19-23, 2021*)

+ *2020:*

42) COVID19 prediction and decision-making: a journey of pulmonary abnormality findings, AICTE sponsored (national) training program, India (Audience size: 90, *Dec. 07, 2020*)

41) #HealthcareAI: AI is not just for Screening, how about diagnosis? Machine Intelligence Research Labs, USA (Audience size: 120, *Aug 14, 2020*)

40) AI-Driven Tools for Healthcare (COVID-19, special case), The 6th International Conference on Machine Vision and Machine Learning (MVML), Prague, Czech Republic (Audience size: 60, *Aug 13, 2020*)

39) COVID-19 Reveals the Limits of AI-Driven Tools, Artificial Intelligence for COVID-19 Forum, (Audience size: 90, *April 5, 2020*)

38) Challenges in Healthcare: AI Tools from Speech Processing to CT Scans, Mahatma Gandhi Mission's (MGM) Institute for Health Sciences, Mumbai, India (Audience size: 500, *Jan 13, 2020*)

37) Not AI but Close-To-Expert Intelligence (CEI), 5th International Conference on Computing in Engineering and Technology (ICCET), MGMŌs College of CS and IT, Nanded, India Audience size: 220, *Jan 11, 2020*)

36) Workshop on Face re-identification, verification, and recognition: handcrafted features to deep features, 5th International Conference on Computing in Engineering and Technology (ICCET), MGM's College of CS and IT, Nanded, India (Audience size: 80, *Jan 9, 2020*)

35) Lung Abnormality Detection: Diagnostic or Screening Tests?, Indian Statistical Institute (ISI), Kolkata, India (Audience size: 25, *Jan 08, 2020*)

34) Can AI and Machine Learning Scientists Ignore Healthcare Experts: Procedural or Non-procedural Solution?, Interna-

tional Seminar on Trends in AI and Machine Learning Research? Aliah University, Kolkata, India (Audience size: 90, *Jan 07, 2020*)

33) Smart healthcare: How can we get it?, West Bengal University of Technology, West Bengal - Kolkata, India (Audience size: 40, *Jan 06, 2020*)

32) Machine Vision and Medical Imaging, 3rd Biennial International Conference on Recent Trends in Image Processing and Pattern Recognition, Dr. BAMU, Maharashtra, India (Audience size: 200, *Jan 4, 2020*)

31) AI tools for Document Processing, 2nd International Workshop on Pattern Analysis and Machine Intelligence, Dr. BAMU, Maharashtra, India Audience size: 60, (*Jan 2, 2020*)

2019:

30) Data Science, AI, and Machine Learning for Healthcare: Challenges in Developing Countries, Pokhara University, Nepal (Audience size: 40, *Dec 22, 2019*)

29) Smart Healthcare: What Else We Can Do as Computer Scientists?, University of Minnesota, Morris, MN (Audience size: 40, *May 02, 2019*)

2018:

28) Document Image Exploitation, International workshop on Pattern Analysis and Machine Intelligence (PAMI), Solapur, India (Audience size: 60, *December 20, 2018*)

27) AI in Healthcare: Do We Really Seek for Deep Learning?, Karnatak Arts, Science and Commerce College, Bidar, India (Audience size: 120, *December 19, 2018*)

26) Healthcare experts: AI hype; I rather expect Close-to-Expert Intelligence (CEI) tools?, BMS Institute of Technology, Bangalore, India (Audience size: 90, *December 18, 2018*)

25) AI, Machine Learning and Medical Experts: How Can They Tie?, Vignans University, Guntur, India (Audience size: 150, *December 17, 2018*)

24) Can AI help Medical Experts: Image Recognition and Machine Learning?, SVERI college of Engineering, India (Audience size: 160, *December 15, 2018*)

23) Pattern analysis & machine intelligence (PAMI): Medical Imaging, CSET, Minnesota State University (MNSU), Mankato, MN (Audience size: 40, *November 28, 2018*)

22) AI Tools in Healthcare: Can Machine Read Lung Diseases using Chest Radiographs?, IEEE Siouxland speaker section event, Brookings, SD (Audience size: 40, *November 16, 2018*)

21) AI in healthcare: Can deep features work as expected?, University of North Dakota, Fargo, ND (Audience size: 30, *November 02, 2018*)

20) AI in Infectious Disease Screening and Care, 3rd International Conference on Infection Control, Vancouver, Canada (Audience size: 25, *June 25, 2018*)

19) Frankenstein Inspires Discussions on AI, Intelligent Systems and Trends, Frankenstein 200! Symposium, The University of South Dakota, SD (Audience size: 100, *February 27, 2018*)

18) Artificial Intelligence & Machine Learning in Healthcare, SDSU Data Science Symposium, 2018, South Dakota State University, Brookings, SD (Audience size: 60, *February 12, 2018*)

2016:

17) Pattern Analysis and Machine Intelligence in Healthcare, International Conference on Image Processing & Pattern Recognition (RTIP2R), INDIA (Audience size: 60, *December 17, 2016*)

16) Automated Chest X-ray Screening to Detect Tuberculosis, Academic Alliance for Tuberculosis, University of Minnesota, Rochester, MN (Audience size: 100, *November 29, 2016*)

15) Machine Learning: Chest X-ray Screening for the Evidence of Pulmonary Abnormalities, 2nd World congress on Infectious Diseases, Philadelphia, PA (Audience size: 90, *August 26, 2016*)

14) Automated document image understanding, Department of Computer Science, The University of South Dakota, SD (Audience size: 30, *January 26, 2016*)

13) Automatic X-ray screening for Tuberculosis, Sanford school of medicine, The University of South Dakota, SD (Audience size: 40, *February 18, 2016*)

12) Automatic chest X-ray screening for rural areas, to detect pulmonary abnormalities, Dept. of Math. & Stats., South Dakota State University, SD (Audience size: 60, *October 19, 2015*)

2008 − 2015:

11) Automatic Pulmonary Abnormality Screening using Thoracic Edge Map, US NLM fellowship series National Institutes of Health, MD (Audience size: 30, *June 15, 2015*)

10) Automatically Detecting Rotation in Chest X-ray for Quality Control, US NLM associate lecture series, National

Institutes of Health, MD (Audience size: 30, *October 29, 2014*)

9) Spatial Relations and Shape Analysis for Document Information Content Exploitation, US NLM Brown-bag lecture series (Engineering Branch), National Institutes of Health, MD (Audience size: 40, *July 11, 2013*)

8) Graphics Recognition in the Real-world Industrial Problem, Department of Computer Science, Technische Universitat Dortmund, Germany (Audience size: 20, *December 14, 2013*)

7) Pattern Analysis and Recognition in Document Images, IEEE Computer Society - India Council, India (Audience size: 100, *November 03, 2012*)

6) No Worries – We Attempt for Nepalese Handwritten Character Recognition Engine, Nepal Academy of Sci. and Techno. (NAST), NEPAL (Audience size: 10, *September 25, 2012*)

5) Pattern Recognition and Retrieval Methods – Application to Document Images, SnT, University of Luxembourg, Luxembourg (Audience size: 15, *May 15, 2012*)

4) Pattern Recognition and Localization in Document Image, Institute for Vision and Graphics, Universitat Siegen, Siegen, Germany (Audience size: 10, *March 20, 2012*)

3) Graphics Recognition using Spatial Relations & Shape Analysis, LIPADE, Universite Paris Descartes (Paris V), Paris, France (Audience size: 15, *November 11, 2012*)

2) On-line Cursive Handwritten Character Recognition, LORIA Research Centre, Nancy, France (Audience size: 10, *November 27, 2008*)

1) On-line Writer Independent Nepali Handwritten Character Recognition, Asian Applied NLP for Linguistic Diversity & Lang. Resource Development NECTEC – SIIT, Thammasat University, Thailand (Audience size: 70, *March 03, 2008*)

V. Service and Engagement

A. University-Wide Service

1) Department of Computer Science

   i) *Chair* (Fall 2020 – present)
   ii) Graduate Program *Coordinator/Director* (Fall 2017 – present)
   iii) *Director*, Robotic Programming Contest (Fall 2015 – 2021)
   iv) Faculty/Staff Search
      Chair, faculty search committee (tenure-track) (Fall 2020 – Spring 2021)
      Chair, instructor search committee (Spring 2019)
      Member, secretary search committee (Summer 2018)
      Member, faculty search committee (tenure-track) (Spring 2016)
   v) *Coordinator*, MS Thesis Protocol (Fall 2017 - Spring 2018)
   vi) *Faculty advisor,* AI Club (Fall 2023 – present)
   vii) *Faculty advisor,* ACM-USD Chapter (Fall 2016 – 2021)
   viii) *Computer science representative*, Open houses (*Fall 2015 – present*)

2) College of A&S

   i) *Reviewer*, Blair and Linda Tremere Faculty Service Award (Fall 2019 – Spring 2021)
   ii) *Member*, Enrollment & Management Committee (Fall 2019 – Spring 2021)
   iii) *Member*, Curriculum & Instruction Committee (Fall 2017 – Spring 2021)
   iv) *Division chair*, Science/Math (election) (Fall 2018 – Spring 2021)
   v) *Speaker*, Admitted Student Days: Discussion (*Spring 2019*)
   vi) *Member*, French Instructor Search, Department of Modern Languages and Linguistics (Summer 2019)
   vii) *Member*, Faculty Search (TT), Department of Psychology (Spring & Summer, 2020)

3) University

   i) *Member*, Faculty Affairs Committee – Science/Math Division (Fall 2022 – Spring 2023; 1-year term (elected))
   ii) *Member*, Institutional Promotion & Tenure Committee (Fall 2021 – present; 3-year term (elected))
   iii) *Reviewer*, President's Research Excellence Award (Early/Mid-career and Established Faculty) (Fall 2020)
   iv) *Vice-chair*, Council for Undergraduate Research and Creative Scholarship (CURCS) (Fall 2019 – Spring 2021)
   v) *Member*, Honors Program: Honors Inclusive Excellence Recruitment (Fall 2020 – Spring 2021)
   vi) *Member*, Intellectual Property (Fall 2020 – Spring 2022)
   vii) *Member*, CURCS (Fall 2016 – Spring 2022)
   viii) *Member*, Graduate Council, Graduate School (Fall 2018 – Spring 2022)
   ix) *Member*, Information Technology Advisory Council (Fall 2018 – Spring 2021)
   x) *Moderator,* IDEAfest: research festival (annual event) (Spring 2019, 2021))

4) Community service

   i) *Founder and Faculty Advisor*, Nepalese Student Association (under SGA), USD (2016 – present)
   ii) *Judge*, Game On: SD Science Olympiad (annual event) (Fall 2017 – present)

iii) *Judge*, Robotics: VEX IQ Competition (annual event) (Spring 2018 – present)

iv) *Member,* Vermillion Rotary Club, SD (Spring 2018 – present)

B. External Service

1) Review Panelist (Research Grant Proposals)

   i) National Science Foundation (NSF, NSF-NRT, NSF-GRFP, NSF-SBIR/STTR) (2017, 2018, 2019, 2020, 2021, 2022, 2023);

   ii) Swiss NSF (2019, 2020, 2021, 2022, 2023);

   iii) Medical Research Council, UK (2019, 2020, 2021, 2022, 2023);

   iv) University of Michigan – Precision Health (2021, 2022);

   v) ZonMW – Health Research and Innovation, Netherland (2021, 2022);

   vi) Mitacs (Inspiring Innovation), Research & Development, Canada: Accelerate Research Proposal (2019, 2020, 2021, 2022, 2023);

   vii) Medical Research Future Fund - Frontier Health and Medical Research Initiative, AUS (2022, 2023);

   viii) Natural Sciences & Engineering Research Council (NSERC) of Canada (2015, 2017, 2019, 2020, 2021, 2022, 2023); and

   ix) Wallenberg AI, Autonomous Systems and Software Program - Humanities and Society, Sweden (2022, 2023).

2) Conference Chair (General Chair/Program Chair/Area Chair)

   i) *Computer Society Chair,* IEEE Siouxland Section, region 4 (2019 – 2021)

   ii) *Conference Chair*

   – IEEE International Conference Cognitive Machine Intelligence, Washington DC, USA (October 28-30, 2024) – *Program co-chair*

   – IEEE International Conference on AI, Marina Bay Sands, Singapore (June 25-27, 2024) – *Publicity co-chair*

   – International Conference on Computer Vision and AI, Morocco (March 5-7, 2023)

   – International Conference on Computer Vision & Machine Intelligence (CVMI): ● IIIT Allahabad, India (October 19-20, 2024) ● IIIT Gwalior, India (December 10-11, 2023) ● IIIT Allahabad, India (August 12-13, 2022)

   – International Congress on Information and Comm. Techno. in concurrent with ICT Excellence Awards (ICICT), London UK, (icict.co.uk): ● Feb. 22-24, 2022 ● Feb. 20-21, 2021 ● Feb. 20-21, 2020 ● Feb. 25-26, 2019 ● Feb. 27-28, 2018

   – IAPR 13th International workshop of GRaphics RECognition (GREC), (grec2019.univ-lr.fr) Sydney, Australia (September 20-21, 2019)

   iii) *General Chair*

   – IEEE 2nd International Conference on Computing and Machine Intelligence, Istanbul, Turkey (July 15-16, 2022)

   – IEEE 35th International Symposium on Computer Based Medical Systems (cbms-conference.org), Shenzhen University, China (July 28-30 2022)

   – IEEE 33rd International Symposium on Computer Based Medical Systems (cbms-conference.org), Mayo Clinic Center, Rochester, MN (in collaboration with the department of computer science, USD) (July 28-30 2020)

   iv) *Special Track Chair,* IEEE 34th International Symposium on Computer Based Medical Systems (CBMS), Mayo Clinic Center, Rochester, MN (June 7-9 2021)

   v) *Founder and Co-chair,* The University of South Dakota (USD) symposium on Data Harnessing, usd.edu/academics/symposium): ● Nov. 07, 2019 ● Nov. 08, 2018

   vi) *Honorary Chair,* International Conference on Recent Trends in Image Processing & Pattern Recognition (RTIP2R), (rtip2r-conference.org): ● 6th RTIP2R: University of Derby & Applied AI Lab (Dec 19-20, 2024) ● 6th RTIP2R: University of Derby & Applied AI Lab (Dec 07-08, 2023)

   vii) *Founder and General Chair*

   – International Conference on Recent Trends in Image Processing & Pattern Recognition (RTIP2R), (rtip2r-conference.org): ● 5th RTIP2R: Texas A&M University – Kingsville & Applied AI Lab (Nov. 22 - 23, 2022) ● 4th RTIP2R: University of Malta, Malta & PAMI Research Lab (Dec. 8-10, 2021) ● 3rd RTIP2R: BAMU, Aurangabad, India (Jan. 03-04, 2020) ● 2nd RTIP2R: Solapur University, Solapur, India (Dec. 21-22, 2018) ● 1st RTIP2R: Karnatak Arts, Science and Commerce College, Bidar, India (Dec. 16-17, 2016)

   – International Conference on Applied Machine Learning & Data Analytics (AMLDA), (icamlda.org): ● 4th AMLDA: VIT-Vhopal, India (Dec 17-18, 2022) ● 3rd AMLDA: Hyderabad, India (Dec 17-18, 2021)

   – International workshop on pattern analysis & machine intelligence (in conjunction with rtip2r-conference.org): ● 2nd Workshop: BAMU, Aurangabad, India (Jan. 02, 2020) ● 1st Workshop: Solapur University, Solapur, India (Dec. 20, 2018)

   viii) *Conference Area Chair* (*Computer Vision*), International Conference on Computer Vision & Image Processing (CVIP), IIT, India (2016, 2018, 2020)

3) *Editor-In-Chief,* International Journal of Signal Proc., Image Proc. and Pattern Recognition (2019)

4) *Academic Editor,* PeerJ, Computer Science (2020 – 2023)

5) *Associate Editor-in-Chief,* Electronics (Fall 22 – present)

6) *Associate Editor* i) IEEE Transactions on AI (Spring 20222 – present);
   ii) International Journal of Pattern Recognition & AI (Spring 2023 – present);
   iii) World Scientific Annual Review of AI (Spring 2023 – present);
   iv) Human-Centric Intelligent Systems, Springer Nature (Spring 2023 – present);
   v) IET Image Processing, IEEE/IET (Spring 2022 – present);
   vi) SN Computer Science, Springer Nature (Spring 2020 – present);
   vii) Advances in Computational Intelligence, Springer Nature (2020 – present);
   viii) IEEE Access (2019 – present);
   ix) International Journal of Ambient Computing and Intelligence (2019 – present);
   x) International Journal of Machine Learning & Cybernetics, Springer Nature (2016 – present); and
   xi) Journal of Pattern Recognition Research (2014 – present).

7) *Proceeding Editor,* CCIS[4] Springer series, (2017 – 2024)

8) *Editorial Board Member* i) Applied Sciences, MDPI (2020 – present); ii) Journal of Imaging, MDPI (2020 – present) ; iii) Information, MDPI (2019 – present) ; iv) Computer Vision and Image Analysis - Frontiers in ICT (2016 – present); v) SpringerPlus (2016 – present); vi) Frontiers in Digital Humanities - speciality: cultural heritage digitization (2016 – present); vii) International Journal of Computer Vision and Image Processing (2015 – present); viii) Statistics, Optimization and Information Computing, International journal (2013 – present); and ix) International Journal of Computer Science and Artificial Intelligence (2013 – present).

9) *Guest Editor* (*for Journals*)
   i) Artificial Intelligence in Medicine, Elsevier (2022 – 2023); ii) Computers in Biology and Medicine, Elsevier (2021); iii) Computer & Electrical Engineering, Elsevier (2021); iv) IEEE: Journal of Biomedical & Health Informatics (2021 – 2023); v) SN Computer Science, Springer (2020 – 2023); vi) Journal of Imaging, MDPI (2020 – 2023); vii) Healthcare, MDPI (2022 – 2023); viii) Entropy, MDPI (2022 – 2023); ix) Big Data and Cognitive Computing, MDPI (2022); x) Applied Sciences, MDPI (2020 – 2022); xi) Multimedia Tools & Applications (2020); xii) International Journal of Document Analysis & Recognition, Springer Nature (2019 - 2020); xiii) International Journal of Multimedia Tools & Applications, Springer Nature (2019 - 2020); xiv) International Journal of Ambient Computing and Intelligence, IGI Global (2019); xv) International Journal of Speech Technology, Springer Nature (2018 - 2019); and xvi) International Journal Computer Vision and Image Proc., IGI Global (2016 - 2017)

10) *Moderator,* TechRxiv – IEEE

11) *Vice-Chair and Educational Officer,*

12) International Association for Pattern Recognition (IAPR) Technical Committee 10 (TC-10): Graphics Recognition (2017 – present)

13) *External Evaluation* (Examiner) for a Faculty Search (Data Mining): Assistant/Associate professor search (Data Mining), Department of Information Technology, Halmstad University, Sweden (Spring 2019)

14) *External Promotion & Tenure Committee,* Universiti Tunku Abdul Rahman, Malaysia (2020, 2021, 2022)

15) *International Scientific Committee* i) Human-Machine Interaction Summer School, (HMISS), Italy (2017) and ii) IEEE Italy Section Medical Informatics Summer School, (MISS) (2016).

16) *Program Committee* of high quality conferences, such as (major): i) International Conference on Document Analysis and Recognition (2013, 2017, 2019, 2020), ii) Bioimaging (2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022), iii) International Conference on Pattern Recognition Application and Methods (2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022), iv) International Conference on Computer Vision, Theory & Applications (2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022), v) International Conference on Pattern Recognition (2014, 2016, 2018, 2020, 2021, 2022), vi) International Conference on Computer Vision & image processing (2016, 2017, 2018, 2019, 2020, 2021, 2022), vii) International Conference on Computer Biology & Bioinformatics (2018, 2019, 2020, 2021, 2022), viii) International Workshop on Graphics Recognition (2015, 2017, 2019, 2021)

17) Regular *Reviewer* of high quality peer reviewed journals, such as (major, alphabetical order): i) ACM Computing Surveys, ii) Applied Intelligence, iii) Applied Soft Computing, iv) Applied Sciences, v) ACM Transactions on Asian Language Information Processing, vi) BMC Medical Information and Decision Making, vii) Biomedical Signal Processing and Control, viii) Computers and Electronics in Agriculture, ix) Computer Methods and Program in Medicine, x) Cognitive Computation, xi) Computational Intelligence, xii) Computer Vision & Image Understanding, xiii) Clinical Medicine, xiv) Computerized Medical Imaging and Graphics, xv) Computer Vision and Image Analysis - Frontiers in ICT, xvi) Expert Systems, xvii) Experts Systems & Applications, xviii) Engineering Applications of Artificial Intelligence, xix) Future Generation Computing System, xx) Heliyon - Cell press, xxi) Health Services & Management Research, xxii) Journal of Imaging - MDPI, xxiii) Journal of Electronic Imaging - SPIE, xxiv) Journal of Medical Systems, xxv) Journal of Digital Imaging, xxvi) IEEE Access, xxvii) IEEE Journal of Biomedical and Health Informatics, xxviii) IEEE Transaction on Parallel & Distributed Systems, xxix) IEEE Transactions on Medical Imaging, xxx) Information Fusion, xxxi) International Journal of Medical Informatics, xxxii) International Journal of Imaging

---

4. CCIS = Communication in Computer and Information Science

Systems & Technology, xxxiii) International Journal of Machine Learning & Cybernetics, xxxiv) Image & Vision and Computing, xxxv) International Journal Computer Vision and Image Processing, xxxvi) International Journal of Applied Pattern Recognition, xxxvii) International Journal on Document Analysis & Recognition, xxxviii) International Journal of Pattern Recognition & Artificial Intelligence, xxxix) Machine Learning Research, xl) Multimedia Tools and Applications, xli) Measurement Science and technology, xlii) Machine Vision and Applications, xliii) Medical Image Analysis, xliv) Neural Computing and Applications, xlv) Nature Communications, xlvi) Neural Networks xlvii) Photonics Journal, xlviii) Physical Engineering and Sciences in Medicine, xlix) PeerJ Computer Science, l) Pattern Recognition, li) Pattern Recognition Letters, lii) Scientific Report - Nature, liii) SPIE Medical Imaging, liv) SpringerPlus, lv) SN Computer Science, lvi) Symmetry - MDPI, lvii) The Lancet (Infectious Diseases and Respiratory Medicine), lviii) The Visual Computer, lix) International Journal of Computer Graphics.

VI. MISC (Media Contributions)

1) USD news (Summer 2024): USD faculty to discuss AI ethics at state bar of South Dakota annual convention: https://www.usd.edu/ and-schools/knudson-school-of-law/south-dakotan-lawyer/usd-faculty-to-discuss-ai-ethics-at-state-bar-of-south-dakota-annual-convention

2) USD news (Summer 2024): USD announces participation in department of commerce consortium dedicated to AI safety: https://www.usd.edu/the-south-dakotan/usd-announces-participation-in-department-of-commerce-consortium-dedicated-to-ai-safety

3) USD news (Summer 2024): USD's KC Santosh to highlight chips and science act and AI innovation at IEEE-USA Conference: https://www.usd.edu/academics/colleges-and-schools/college-of-arts-sciences/south-dakotan-arts-and-sciences/usds-kc-santosh-to-highlight-chips-act-ai-innovation-at-ieee-usa-conference

4) USD news (Spring 2024):Computer science chair co-authors book on active learning in healthcare with recent department graduate student: https://www.usd.edu/academics/colleges-and-schools/college-of-arts-sciences/south-dakotan-arts-and-sciences/computer-science-chair-co-authors-book-on-active-learning-in-health-care-with-recent-department-grad

5) USD news (Spring 2024): Director of the Division for Information and Intelligent Systems at NSF, will deliver the keynote address at the University of South Dakota's fourth annual Artificial Intelligence Symposium: https://www.usd.edu/academ and-schools/college-of-arts-sciences/south-dakotan-arts-and-sciences/nsfs-michael-l-littman-confirmed-as-artificial-intelligence-symposium-keynote-speaker

6) USD news (Spring 2024): IEEE Sponsored USD's annual 4th AI symposium: https://www.usd.edu/Academics/Colleges-and-Schools/college-of-arts-sciences/computer-science/Artificial-Intelligence-Symposium

7) USD news (Summer 2023): Graduate CS student co-authored book on AI with department chair. https://www.usd.edu/academics/ and-schools/college-of-arts-sciences/south-dakotan-arts-and-sciences/graduate-computer-science-student-co-authors-book-on-ai-with-department-chair

8) USD news (Spring 2023): USD to host third annual AI symposium. https://www.usd.edu/academics/colleges-and-schools/college-of-arts-sciences/south-dakotan-arts-and-sciences/usd-to-host-third-annual-ai-symposium

9) Sioux Falls Business News (Spring 2023): Students Flock to Artificial Intelligence Offerings at USDs Computer Science Department
URL: https://www.siouxfalls.business/students-flock-to-artificial-intelligence-offerings-in-usds-computer-science-programs/

10) USD News (Fall 2022): Students Flock to Artificial Intelligence Offerings at USDs Computer Science Department
URL: https://www.usd.edu/the-south-dakotan/students-flock-to-artificial-intelligence-offerings-at-usds-computer-science-department

11) Sioux City Journal News (Fall 2022): University of South Dakota's artificial intelligence program proves attractive for people of all careers.
URL: https://siouxcityjournal.com/news/local/education/university-of-south-dakotas-artificial-intelligence-program-proves-attractive-for-people-of-all-careers/article_90f6ff24-96c5-50ea-9e5a-a506ebc81cae.html

12) USD News (Spring 2022): USD to host first *Artificial Intelligence Symposium, March 22, 2022*.
URL: https://www.usd.edu/news/2022/usd-to-host-artificial-intelligence-symposium-march-22

13) USD News (Spring 2021): USD to host first *Artificial Intelligence Symposium, March 16-18, 2022*.
URL: https://www.usd.edu/news/2021/usd-to-host-first-ai-symposium-march-16-18

14) Prairie Business Magazine (Jan 2021): Farming with technology – *AI for sustainable and precision agriculture*.
URL: https://www.mydigitalpublication.com/publication/?m=27629&i=689050&p=16

15) USD News (Fall 2020): USD to offer State's only *Artificial Intelligence Programs*.
URL: https://www.usd.edu/news/2020/usd-to-offer-states-only-artificial-intelligence-programs

16) WeAreSouthDakota News (Fall 2020): USD to offer State's only *Artificial Intelligence Programs*.
URL: https://www.wearesouthdakota.com/innovation-workforce-development/usd-to-offer-states-only-artificial-intelligence-programs

17) The News Break (Fall 2020): State's Only *AI Programs* to come to USD.
URL: https://www.newsbreak.com/news/2077398555595/states-only-ai-program-to-come-to-usd

18) The Volante News (Fall 2020): State's Only *AI Programs* to come to USD.
   URL: http://volanteonline.com/2020/10/states-only-ai-program-to-come-to-usd/

19) USD News (Spring 2020): USD Computer Scientist Provides *Artificial Intelligence* Guidelines for *COVID-19 Outbreak*.
   URL: https://www.usd.edu/news/2020/usd-computer-scientist-provides-artificial-intelligence-guidelines-for-covid19-outbreak

20) College of A&S Newsletter (Fall 2018): Making Sense of *Big Data* (Page 10, Full Page).
   URL: http://apps.usd.edu/administrative/flip/as-newsletter-fall-2018/10/

21) USD News (Fall 2018): USD to Host Symposium on *Data Harnessing*.
   URL: https://www.usd.edu/news/2018/usd-to-host-symposium-on-data-harnessing

22) The Volante (Fall 2018): USD professor authors book, '*Document Image Analysis*'.
   URL: http://volanteonline.com/2018/09/usd-professor-authors-book-document-image-analysis/

23) The Volante (Fall 2018): NSA hosts Dashain, celebrates good over evil.
   URL: http://volanteonline.com/2018/10/nsa-hosts-dashain-celebrates-good-over-evil/

24) Youtube via International Office, USD (Spring, 2018): Nepalese Student Association at USD.
   URL: https://www.youtube.com/watch?v=-aAT45bdY8k

25) The Volante (Fall 2017): *New organization* founded to represent Nepalese culture.
   URL: http://volanteonline.com/2017/11/new-organization-founded-to-represent-nepalese-culture/

26) USD International Blog (Fall 2017): Dr. KC shares insights about *Computer Science* at University of South Dakota.
   URL: https://usdinternationalblog.wordpress.com/2017/10/12/dr-kc-shares-insights-about-computer-science-at-university-of-south-dakota/

WHO AM I (USING #)?

#AI/DataScientist [world's top 2% research scientist (source: Stanford University) and no. 1 in the state of SD in AI, source: bibliometrics research report] (examples: top 1% in both Clinical Medicine and Engineering — AI-driven tools for Coronavirus Outbreak (2020))]

#AcademicLeader [increased graduate enrollment by more than ∼4,000% in three years (source: AY24 report) – the highest number of the ∼50 years record; current enrollment: 400+ students]

#CurriculumExpert [Developed multiple programs: Undergrad, Grad - MS/MA, and PhD (inter-disciplinary, AI/Data Science related), USD]

#ProgramAssessmentExpert [ABET Program Evaluator | ABET accreditation]

#AcademicMotivator [ACM distinguished speaker | IEEE distinguished speaker | plenary/keynote talks at the international conference events – 80+ talks]

#AwardedWinningFaculty [Leadership award - University of Derby - UK, HHS Ignite award, President's Research Excellence Award and College Teaching and Research Award]

#Author #Editor #Chair [published 10 books, 250+ research articles, edited multiple journal issues and conference proceedings, and chaired more than a dozen of premium conference in the domain: AI, machine learning, and computer vision]