Juan Shan

Associate Professor of Computer Science
Seidenberg School of Computer Science and Information Systems
Pace University, New York, NY, 10038
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EDUCATION

Ph.D. in Computer Science, Utah State University, Logan, UT, USA, 2011

B.S. in Computer Science, Harbin Institute of Technology, Harbin, China, 2004

RESEARCH INTERESTS

- Machine Learning
- Computer-Aided Diagnosis
- Medical Image Analysis
- Computer Vision

My research interests lie at the intersection of medical image analysis and machine learning. I focus on developing robust, automated computer-aided diagnosis (CAD) algorithms that detect, segment, and quantify organs and biomarkers in medical images. These systems aim to extract distinguishing features and classify data using machine learning techniques for improved disease diagnosis and prediction. My current research projects include developing CAD systems for knee osteoarthritis diagnosis and prediction using MRI; measuring hand joint space width from X-ray images; and enabling early detection of breast cancer through ultrasound image analysis.

ACADEMIC EMPLOYMENT

Associate Professor   Aug 2019 – present
Department of Computer Science, Seidenberg School of CSIS, Pace University

Assistant Professor   Aug 2013 –July 2019
Department of Computer Science, Seidenberg School of CSIS, Pace University

Assistant Professor   Aug 2011– July 2013
Department of Math and Computer Science, Benedictine College

TEACHING

Associate Professor   Sep 2019 – present
Assistant Professor   Sep 2013 – Aug 2019
Department of Computer Science, Pace University

- Introduction to Computing (CIS101)
- Mathematics Structures (CS113)
- Introduction to Computer Science (CS121)
- Object-oriented Programming (CS122)
- Introduction to Computer Vision and Pattern Recognition (CS326)
- Computer Vision (CS671)
- Thesis I (CS693)
- Thesis II (CS694)
- Research Seminar (CS702/CS802)
- Advanced Computer Vision (CS740/CS840)
- Digital Image Processing (DCS861H)

Assistant Professor   Aug 2011– May 2013
Department of Math and Computer Science, Benedictine College
- Computer Architecture (CS421)
- Operating Systems and Networking (CS440)
- Introduction to Computer Science with Java (CS114)
- Computer Science Fundamentals (CS101)
- Applied Statistics (MA211)

PUBLICATIONS

(* indicates student co-author)

Peer-Reviewed Journal Papers
1. Ponnusamy R*, Zhang M, Wang Y*, Sun X*, Chowdhury M*, Driban JB, McAlindon T, **Shan J**. "Automatic Segmentation of Bone Marrow Lesions on MRI Using a Deep Learning Method", *Bioengineering*. 2024; 11(4):374. *(Impact Factor: 3.8)* DOI: https://doi.org/10.3390/bioengineering11040374
2. Raj Ponnusamy*, Ming Zhang, Zhiheng Chang*, Yue Wang*, Carmine Guida*, Samantha Kuang*, Xinyue Sun*, Jordan Blackadar*, Jeffrey B. Driban, Timothy McAlindon, Jeffrey Duryea, Lena Schaefer, Charles B. Eaton, Ida K. Haugen, **Juan Shan**, "Automatic Measuring of Finger Joint Space Width on Hand Radiograph using Deep Learning and Conventional Computer Vision Methods", *Biomedical Signal Processing and Control (BSPC)*, Volume 84, July. 2023. *(Impact Factor: 4.9)* DOI: https://doi.org/10.1016/j.bspc.2023.104713
3. C. Guida*, M. Zhang, and **J. Shan**, "Improving knee osteoarthritis classification using multimodal intermediate fusion of X-ray, MRI, and clinical information", *Neural Computing and Applications*, 35, 9763-9772, Jan. 2023. *(Impact Factor: 4.5)* DOI: https://doi.org/10.1007/s00521-023-08214-8
4. Rania Almajalid*, Ming Zhang, **Juan Shan**, "Fully Automatic Knee Bone Detection and Segmentation on Three-Dimensional MRI", *Diagnostics, 12*(1), 123, 2022. *(Impact Factor: 3.992)* DOI: 10.3390/diagnostics12010123
5. C. Guida*, M. Zhang, and **J. Shan**, "Knee Osteoarthritis Classification Using 3D CNN and MRI", Applied Sciences, 2021, 11(11), 5196. https://doi.org/10.3390/app11115196 *(Impact Factor: 2.7)*
6. Z. Zhang, D. Citardi, D. Wang, Y. Genc, **J. Shan**, X. Fan, "Patients' perceptions of using artificial intelligence (AI)-based technology to comprehend radiology imaging data", *Health Informatics Journal*, 27(2), April 2021. https://doi.org/10.1177/14604582211011215 (*Impact Factor: 2.932*)

7. J. Malmsten[*], N. Zaninovic, Q. Zhan, Z. Rosenwaks, and **J. Shan**, "Automated cell division classification in early mouse and human embryos using convolutional neural networks", *Neural Computing and Applications*, Vol. 33, pp. 2217-2228, 2020. DOI: 10.1007/s00521-020-05127-8 *(Impact Factor: 4.664)*

8. R. Almajalid[*], **J. Shan,** Y. D. Du[*], and M. Zhang, "Identification of Knee Cartilage Changing Pattern", *Applied Sciences, 9*(17), 3469, 2019. *(Impact Factor: 2.474)*

9. Y. D. Du[*], R. Almajalid[*], **J. Shan,** and M. Zhang, "A Novel Method to Predict Knee Osteoarthritis Progression on MRI Using Machine Learning Methods", *IEEE Trans. on NanoBioscience*, Vol. 17, Issue 3, pp. 228-236, 2018. *(Impact Factor: 2.771)*

10. W. Cao[*], N. Zarnek[*], **J. Shan,** and L. Li, "Microaneurysm Detection Using Principal Component Analysis and Machine Learning Methods", *IEEE Trans. on NanoBioscience*, Vol. 17, Issue 3, pp. 191-198, 2018. *(Impact Factor: 2.771)*

11. J. Malmsten[*], N. Zaninovic, Q. Zhan, M. Toschi, Z. Rosenwaks, **J. Shan**, "Automatic Prediction of Embryo Cell Stages using Artificial Intelligence Convolutional Neural Network", *Fertility and Sterility,* vol. 110, no. 4, p. e360, 2018.

12. K. Thakur[*], **J. Shan**, and A. K. Pathan, "Innovations of Phishing Defense: The Mechanism, Measurement and Defense Strategies", *International Journal of Communication Networks and Information Security (IJCNIS),* Vol. 10, No. 1, 2018.

13. **J. Shan**, S.K. Alam, B. Garra, Y. Zhang and T. Ahmed, "Computer-aided Diagnosis for Breast Ultrasound Using Computerized BI-RADS Features and Machine Learning Methods", *Ultrasound Med Biol.*, Vol. 42, Issue 4, pp. 980-988, Jan. 2016. *(Impact Factor: 2.494)*

14. Y. X. Wang, H. D. Cheng and **J. Shan**, "A Novel Multiplayer Tracking System for Short Track Speed Skating", *IET Computer Vision.* Vol. 8, Issue 6, pp. 629-641, Dec. 2014.

15. **J. Shan,** H. D. Cheng and Y. X. Wang, "A Novel Segmentation Method for Breast Ultrasound Images Based on Neutrosophic L-Means Clustering", *Medical Physics.* Vol. 39, Issue 9, pp. 5669-5682, Sep. 2012. *(5-Year Impact Factor: 3.095)*

16. **J. Shan**, H. D. Cheng and Y. X. Wang, "Completely Automated Segmentation Approach for Breast Ultrasound Images Using Multiple-Domain Features", *Ultrasound Med Biol.*, Vol. 38, Issue 2, pp. 262-275, Feb. 2012. (*5-Year Impact Factor: 2.576*)

17. H. D. Cheng, **J. Shan**, W. Ju, Y. Guo and L. Zhang, "Automated Breast Cancer Detection and Classification Using Ultrasound Images: A Survey", *Pattern Recognition*, Vol. 43, Issue 1, pp. 299-317, 2010. (*5-Year Impact Factor: 3.402*)
    Ranked #4 of TOP25 Hottest Articles of Pattern Recognition July-September 2009

18. W. Ju, **J. Shan**, C. Yan and H. D. Cheng, "Discrimination of Disease-Related non-Synonymous Single Nucleotide Polymorphism using Multi-Scale RBF Kernel Fuzzy Support Vector Machine", *Pattern Recognition Letters*, Vol. 30, Issue 4, pp. 391-396, March 2009.

Peer-Reviewed Conference Papers

1. Teresa Brooks[*], **Juan Shan**, "OLMap, a Biologically Inspired Approach to Few-Shot Learning", *International Conference on Biologically Inspired Cognitive Architectures, the 16th Annual Meeting of the BICA Society (BICA 2025),* Puerto Vallarta, Mexico, August 6 – 10, 2025.

2. Clive Lewis[*], Tarun Ramapuram[*], **Juan Shan**, "Knee Osteoarthritis Detection Using Bone Distances", *IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE 2025)*, New York, NY, USA, June 24-26, 2025.

3. Shihua Qin[*], Qiong Wang, **Juan Shan**, Jeffery Driban, Timothy McAlindon, Kevin Wang, Ming Zhang, "Optimized Deep Learning Method for Automated Segmentation of Bone Marrow Lesions", *2025 Osteoarthritis Research Society International (OARSI) World Congress*, April 24-27, 2025.

4. Shihua Qin[*], Ming Zhang, **Juan Shan**, Taehoon Shin, Jonghye Woo, Fangxu Xing, "Semi-supervised bone marrow lesion detection from knee MRI segmentation using mask inpainting models", SPIE Medical Imaging 2025, 16 - 20 February 2025.

5. Hetali Chavda[*], Ming Zhang, Raj Ponnusamy[*], Yue Wang[*], Carmine Guida[*], **Juan Shan**, "Automatic Measurement of Joint Space Width from Hand Radiographs using Deep Learning Models", *IEEE International Symposium on Biomedical Imaging (ISBI 2024)*, Athens, Greece, May 27-30, 2024.

6. M Zhang, D Yang, S Kuang, J Driban, T McAlindon, **J Shan**, "Prediction Models for Accelerated Knee Osteoarthritis Study" [abstract]. *Osteoarthritis and Cartilage*, Volume 32, S114-S115, 2024.

7. Yuan Gao[*], **Juan Shan**, Raj Ponnusamy[*], Blackadar Jordan[*], Carmine Guida[*], Jeffrey Driban, Timothy McAlindon, Ming Zhang, "Automatically Detect Finger Joint Center and Angle on Hand X-ray: A Deep Learning Model", *American College of Rheumatology (ACR) Convergence*, 2023.

8. Mohammad Chowdhury[*], Ming Zhang, Xinyue Sun[*], Jeffrey Driban, Timothy McAlindon, **Juan Shan**, "Automated Segmentation of Effusion from Knee MRI Images", *2023 Osteoarthritis Research Society International (OARSI) World Congress*, March 17-20, 2023.

9. Zhiheng Chang[*], **Juan Shan**, Jeffrey Driban, Timothy McAlindon, Jeffrey Duryea, Lena Schaefer, Charles Eaton, Ming Zhang, "Automated Joint Space Width Measurement for Hand Osteoarthritis: A Deep Learning Approach", American College of Rheumatology (ACR) Convergence, November 10-14, 2022.

10. Yue Wang[*], Ming Zhang, Tino Cheung, Carmine Guida, Raymond Ren, **Juan Shan**, "Finger Joint Segmentation Using Machine Learning and Minimized Training Set", 2022 Osteoarthritis Research Society International (OARSI) World Congress, April 7-10, 2022.

11. C. Guida[*], M. Zhang, J. Blackadar, Z. Yang, J. Driban, J. Duryea, L. Schaefer, C. Eaton, T. McAlindon, **J. Shan**, "Automated Hand Osteoarthritis Classification Using Convolutional Neural Networks", *IEEE 20th International Conference on Machine Learning and Applications (ICMLA 2021),* December 12-16, 2021.

12. B. Michaely[*], M. Zhang, **J. Shan**, "Bone Marrow Lesion Segmentation Using Synthetic Data and Deep Learning Models" [abstract]. *Arthritis Rheumatol.* 2021; 73 (suppl 9).

13. Z. Yang[*], **J. Shan**, C. Guida*, J. Blackadar*, T. Cheung*, J. Driban, T. McAlindon, M. Zhang, "Automatic Hand Segmentation from Hand X-rays Using Minimized Training Samples and Machine Learning Models" [abstract] *Arthritis Rheumatol.* 2021; 73 (suppl 9).

14. Y. D. Du[*], M.L. Zhang, G. Stonis[*], and J. Shan, "Topological Data Analysis on Magnetic Resonance Image Biomarkers", *IEEE International Conference on Bioinformatics and Biomedicine* (*BIBM 2019*), San Diego, CA, Nov. 18-21, 2019.

15. R. Almajalid[*], **J. Shan,** M.L. Zhang, G. Stonis, and M. Zhang, "Knee Bone Segmentation on Three-Dimensional MRI", *IEEE 18th International Conference on Machine Learning and Applications (ICMLA),* Boca Raton, Florida, Dec. 16-19, 2019.

16. J. Malmsten[*], N. Zaninovic, Q. Zhan, M. Toschi, Z. Rosenwaks, and **J. Shan**, "Automated Cell Stage Predictions in Early Mouse and Human Embryos Using Convolutional Neural Networks", *IEEE International Conference on Biomedical and Health Informatics (BHI'19)*, Chicago, USA, May 19-22, 2019. (*Oral presentation a*cceptance rate 11%)

17. T. Alon[*], **J. Shan**, M. L. Zhang, J. Delvecchio, and M. Zhang, "Bone Segmentation in 3D Knee MRI Images Using U-Net"*, IEEE International Conference on Biomedical and Health Informatics (BHI'19)*, Chicago, USA, May 19-22, 2019.

18. Y. B. Liang[*], **J. Shan**, D. P. Benjamin, and R. Almajalid, "Convolutional Neural Networks for Breast Ultrasound Image Segmentation", *IEEE International Conference on Biomedical and Health Informatics (BHI'19)*, Chicago, USA, May 19-22, 2019.

19. R. Almajalid[*], **J. Shan,** Y.D. Du[*], and M. Zhang, "Development of a Deep-Learning-Based Method for Breast Ultrasound Image Segmentation", *IEEE 17th International Conference on Machine Learning and Applications (ICMLA 2018),* Orlando, Florida, Dec. 17-20, 2018.

20. Y. D. Du[*], **J. Shan**, R. Almajalid[*]**,** Tomer Alon[*], and M. Zhang, "Using Whole Knee Cartilage Damage Index to Predict Knee Osteoarthritis: A Two-year Longitudinal Study", *IEEE International Conference on Bioinformatics and Biomedicine* (*BIBM 2018*), Madrid, Spain, Dec. 3-6, 2018. (*Acceptance rate* 19.6%)

21. M. Zhang, **J. Shan,** Y.D. Du[*], and R. Almajalid[*], Iris Su[*], and Joseph DelVecchio[*], "Whole Knee Cartilage Quantification Based on Informative Locations", *IEEE International Conference on Bioinformatics and Biomedicine* (*BIBM 2018*), Madrid, Spain, Dec. 3-6, 2018. (*Acceptance rate 19.6%*)

22. Y. D. Du[*], **J. Shan,** R. Almajalid*, and M. Zhang, "Knee Osteoarthritis Severity Level Classification Using Whole Knee Cartilage Damage Index and ANN", *IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies*, Washington DC, USA, Sep. 26-28, 2018.

23. Y. D. Du[*], **J. Shan,** and M. Zhang, "Knee Osteoarthritis Prediction on MR Images Using Cartilage Damage Index and Machine Learning Methods", *IEEE International Conference on Bioinformatics and Biomedicine*, Kansas City, Nov., 2017, pp. 671-677. (*Acceptance rate 19%*)

24. L. Li and **J. Shan**, "Automated Microaneurysm Detection in Fundus Images through Region Growing", *17th IEEE International Conference on Bio-Informatics and Bio-Engineering (BIBE - 2017)*, Washington D.C., Nov., 2017.

25. W. Cao[*], N. Zarnek[*], **J. Shan**, and L. Li, "Microaneurysm Detection in Fundus Images by Small Image Patches and Machine Learning Methods", *IEEE International Conference on Bioinformatics and Biomedicine*, Kansas City, Nov., 2017, pp. 325-331. (*Acceptance rate 19%*)

26. Li, L. & **Shan, J.**, "Automated Microaneurysm Detection in Fundus Images by Region Growing", *2017 IEEE International Conference on Biomedical and Health Informatics*, Orlando, Florida, February, 2017.

27. R.A. Mukaddim[*], **J. Shan**, I. E. Kabir1, A. S. Ashik, R. Abid, Z. Yan, D. N. Metaxas, B. S. Garra, K. K. Islam and S. K Alam, "A Novel and Robust Automatic Seed Point Selection Method for Breast Ultrasound Images", *The International Conference on Medical Engineering, Health Informatics and Technology (MediTec 2016)*, Dhaka, Bangladesh, Dec. 17-18, 2016.

28. N. Butt[*] and **J. Shan**, "CyberCare: A Novel Electronic Health Record Management System", *The First IEEE Conference on Connected Health: Applications, Systems and Engineering Technologies*, Washington DC, USA, June 27-29, 2016.

29. **J. Shan** and L. Li, "A Deep Learning Method for Microaneurysm Detection in Fundus Images", *The First IEEE Conference on Connected health: Applications, Systems and Engineering Technologies*, Washington DC, USA, June 27-29, 2016.

30. **J. Shan** and L. Li, "A New Scheme to Evaluate the Accuracy of Knowledge Representation in Automated Breast Cancer Diagnosis", *The 2014 International Conference on Collaboration Technologies and Systems (CTS 2014)*, Minneapolis, Minnesota, 2014.

31. **J. Shan,** H. D. Cheng and Y. X. Wang, "Breast Ultrasound Image Segmentation Based on Neutrosophic L-means Clustering", *Int. Conf. on Image Processing (ICIP2012)*, Orlando, Florida, 2012.

32. **J. Shan**, Y. X. Wang and H. D. Cheng, "Completely Automatic Segmentation for Breast Ultrasound Using Multiple-Domain Features", *Int. Conf. on Image Processing (ICIP2010)*, Hong Kong, China, September 26-29, 2010. (*Oral acceptance rate 480/2545 = 18.8%*)

33. **J. Shan**, H. D. Cheng and Y.X. Wang, "A novel automatic seed point selection algorithm for breast ultrasound images", *Proc. of the 19th International Conference on Pattern Recognition (ICPR 2008)*, Florida, USA, Dec 8-11, 2008. (*Oral acceptance rate 295/1631 = 18.0%*)

34. **J. Shan**, H. D. Cheng and Y.X. Wang, "A completely automatic segmentation method for breast ultrasound images using region growing", *11th Joint Conference on Information Science,* Shenzhen, China, Dec 15-20, 2008.

35. Y.X. Wang, H. D. Cheng and **J. Shan**, "Detecting shadows of moving vehicles based on HMM", *Proc. of the 19th International Conference on Pattern Recognition (ICPR 2008)*, Florida, USA, Dec 8-11, 2008. (*Oral acceptance rate 295/1631 = 18.0%*)

36. **J. Shan**, Y. Wang and C. Yan, "Toward the recognition code of protein-DNA recognition", *Proc. of IEEE 7th International Symposium on BioInformatics and BioEngineering*, pp. 1290 – 1293, 2007. (*Acceptance rate 13%*)

37. **J. Shan**, W. Ju, C. Yan and H. D. Cheng, "Discrimination of Disease-Related Non-Synonymous Single Nucleotide Polymorphism Using Fuzzy Support Vector Machine", *10th Joint Conference on Information Science,* Salt Lake City, UT, USA, 2007. (*Oral presentation*)

38. W. Ju, **J. Shan**, C. Yan and H. D. Cheng, "Discrimination of Outer Membrane Proteins using Fuzzy Support Vector Machines", *10th Joint Conference on Information Science,* Salt Lake City, UT, USA, 2007.

39. M. Wacht, **J. Shan**, and X. J. Qi, "A Short-Term and Long-Term Learning Approach for Content-Based Image Retrieval", *Int. Conf. on Acoustics, Speech, and Signal Processing*, pp. 389-392, Toulouse, France, May 14-19, 2006. (*Acceptance rate 1465/3045=48%*)

GRANTS

- SCH: EAGER: RUI: Collaborative Research: A Novel 3D Image Predictive Model for Knee Osteoarthritis Disease, **National Science Foundation**, $208,107.00, 09/15/2017-08/31/2021, Principal Investigator.
- DAISEC: Data Analytics in Cybersecurity, **National Security Agency**, $188,564.98, 09/2017-08/2018, Co-Principal Investigator.
- Distinguished Lecture Series Grant, **Computing Research Association (CRA)**, $750.00, February 2017
- Innovative Teaching Grant, **Pace University**, $5000.00, November 2016
- Scholarly Research Committee Grant, **Pace University**, $2971.00, November 2016
- Kenan Travel Grant, **Pace University**, $1450.00, February 2016

INVITED TALKS AND PRESENTATIONS

1. Invited talk, "How to get started on research & developing a balanced research pipeline", Research Agenda Workshop (RAW), Pace University, Jan 21st, 2026.
2. Poster presentation, "Knee Osteoarthritis Detection Using Bone Distances", IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE 2025), New York, NY, USA, June 24-26, 2025.

3. Invited talk, "Artificial Intelligence for Medical Image Analysis", guest speaker at Boston University, October 27, 2022.
4. Invited talk, "The Future of Technology: Computer Vision and Machine Learning for Medical Image Analysis", invited talk at Seidenberg School Faculty Meeting, Pace University, September 1st, 2022.
5. Invited talk, "Artificial Intelligence for Medical Image Analysis", Interdisciplinary Conversations: Technology & Health, Pace University, November 9th, 2021.
6. Invited talk, "Deep Learning with Pre-trained Convolutional Neural Networks", Faculty Development Day, Pace University, January 22, 2021.
7. Lightning talk and poster presentation, "Integrate Clinical Relevance to Multimodal Data Fusion", Smart and Connected Health PI Meeting, National Science Foundation, January 6, 2020.
8. Invited talk, "Deep Learning Models for Medical Image Analysis", Machine Intelligence Day, Pace University, December 6, 2019.
9. Oral presentation, "Convolutional Neural Networks for Breast Ultrasound Image Segmentation", *IEEE International Conference on Biomedical and Health Informatics (BHI'19)*, Chicago, USA, May 21, 2019.
10. Poster presentation, "Knee Osteoarthritis Severity Level Classification Using Whole Knee Cartilage Damage Index and ANN", *IEEE 3rd Conference on Connected Health: Applications, Systems and Engineering Technologies*, Washington D.C., USA, September 2018.
11. Oral presentation, "A Novel 3D Image Predictive Model for Knee Osteoarthritis Disease", *NSF Connections in Smart Health Workshop & NSF SCH PI Annual Meeting*, Washington DC, USA, September 2018.
12. Poster presentation, "A Deep Learning Method for Microaneurysm Detection in Fundus Images", *IEEE 1st Conference on Connected Health: Applications, Systems and Engineering Technologies*, Washington DC, USA, June 2016.
13. Invited talk, "Introduction to Basic Research Methodologies and Computer-aided Diagnosis for Breast Cancer", *Pace University Honor Research and Thesis Forum*, March 8, 2016.
14. Poster presentation, "Automatic Computer-aided Diagnosis for Breast Cancer", *Pace Research Seminar*, February 2015.
15. Oral presentation, "A Similarity Measurement of Clinical Trials Using SNOMED - A Preliminary Study", *International Conference on Collaboration Technologies and Systems (CTS 2014)*, Minneapolis, MN, May 2014.
16. Oral presentation, "A New Scheme to Evaluate the Accuracy of Knowledge Representation in Automated Breast Cancer Diagnosis", *CTS 2014*, Minneapolis, MN, May 2014.
17. Invited talk, "Automatic Breast Cancer Diagnosis using Ultrasound Images", Pace University DPS seminar, 2013.
18. Oral presentation, "An Automatic Segmentation Method for Breast Ultrasound Images", *Intermountain Graduate Research Symposium 2011*, Logan, UT, March 2011.
19. Oral presentation, "Completely Automatic Segmentation for Breast Ultrasound Using Multiple-Domain Features", *Int. Conf. on Image Processing (ICIP2010)*, Hong Kong, China, September 2010.
20. Oral presentation, "Completely Automatic Segmentation for Breast Ultrasound", *Intermountain Graduate Research Symposium 2010*, Logan, UT, March 2010.
21. Oral presentation, "Discrimination of Disease-Related Non-Synonymous Single Nucleotide Polymorphism Using Fuzzy Support Vector Machine", *10th Joint Conference on Information Science*, Salt Lake City, UT, July 2007.

AWARDS AND HONORS

- **Kenan Award for Teaching Excellence,** Pace University, 2024
- **Research Day 2014 Awardee,** Pace University, 2014
- **First Place Research Paper,** Intermountain Graduate Research Symposium, 2011
- **Dissertation Fellowship**, Utah State University, 2010
- **Honor Roll of Graduate School**, Utah State University, 2006

SERVICE

Internal
- Assistant Chair of the Department of Computer Science, 2024-present
- Chair of Faculty Search Committee, Department of Computer Science, 2022-2023, 2023-2024
- Academic Calendar Committee, 2023-present
- Tenure and Promotion Committee of Seidenberg School, 2023-2024
- Tenure and Promotion Committee of the Department of Computer Science, 2020-2021
- Program Committee of Machine Intelligence Day, Seidenberg, 2019-2022
- Chair of Computer Science Curriculum Committee, 2019-2021
- Course Coordinator Committee, Department of Computer Science, 2019-2020
- Faculty Search Committee, Department of Computer Science, 2014-2015, 2017-2018
- Faculty Affairs and Scholarship Release Time Committee, Seidenberg School, 2018
- Pace University Faculty Satisfaction Survey Committee, 2018-2019
- Seidenberg School Technical Report Committee, 2016
- ABET Assessment Course Coordinator, 2015-present
- Honors Thesis Supervisor, 2015-2017, 2022-2023
- Computer Science Curriculum Committee, 2014-present
- CIS101 Review Committee, 2014-2015

External
- Local Chair of IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE 2025)
- Program Committee member for the 2nd International Workshop on Ethics and Bias of Artificial Intelligence in Clinical Applications (EBAIC 2024)
- NSF grant review panel for Smart and Connect Health Program, 2022
- Technical Program Committee of the IEEE/ACM Conference on Connected Health Applications, Systems, and Engineering Technologies (CHASE 2022)
- Poster & Demo Chair of IEEE/ACM Conference on Connected Health Applications, Systems, and Engineering Technologies (CHASE 2021)
- Technical Program Committee member for IEEE International Conference on Machine Learning and Applications (ICMLA), Track of Predictive Models in Engineering Applications**,** 2019
- Session Chair of 2014 International Conference on Collaboration Technologies and Systems, Minneapolis, MN, 2014

- Ad hoc reviewer for Nature Communications, IEEE Transactions on Medical Imaging, IEEE Journal of Biomedical and Health Informatics, Biomedical Signal Processing and Control, Computer Methods and Programs in Biomedicine, etc.

STUDENT ADVISING

Current Students
- Ph.D. students: Teresa Brooks, Hetali Chavda
- Master's Thesis: Joshua Arnow
- UG Honors Thesis: Uday Brathwaite
- UG students: Khaing Su, Zender Aurelien-Nikolai

Graduated Students
- Ph.D. students: Mohammad Chowdhury (August 2025, NYU), Raj Ponnusamy (September 2024, UBS), Carmine Guida (July 2022, Faculty at Pace University), Rania Almajalid (Dec 2021, Faculty at Saudi Electronic University, Saudi Arabian), Kutub Thakur (April 2018, Faculty at New Jersey City University)
- DPS students: Jonas Malmsten (Spring 2019, Weil Cornel Medicine), Ephraim Adeola (Dec 2020, GE Aerospace)
- Master Thesis: Harsh Khilawala (May 2025), Jesse Hill (May 2021), Barak Michaely (May 2021), Ian Carvalho (Dec 2019)
- Honors Thesis: Daniel Mahr (May 2023), Choenyi Gangshar (May 2017), Nida Butt (May 2016, co-authored peer-reviewed poster paper accepted by IEEE/ACM CHASE 2016)
- Undergraduate students: Tomer Alon (May 2019, co-authored publication on knee bone segmentation), John Taylor (Faculty and Student Research Award, May 2020), Federico Gutierrez (Faculty and Student Research Award, May 2021).