

# Jianming Liang, PhD

**Professor, Arizona State University; Adjunct Associate Professor, Mayo Clinic**

Biomedical Informatics, Computer Science, Computer Engineering, Software Engineering, Biomedical Engineering, and Radiology

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I have a background in both academia and industry; after six years at Siemens, I joined the faculty of Arizona State University (ASU) in December 2008. [Funded by an NIH R01 grant \(≈\\$2.5M\)](#) and [multiple state and local grants \(≈\\$2.5M\)](#), **my research is highly interdisciplinary**, meshing *multiple* branches of science and engineering with medical specialties for direct societal impacts. Specifically, drawing upon computer vision, machine (deep) learning, visualization, high-performance computing, software engineering, imaging science, statistics, and mathematics, my research focuses on developing novel computational methodologies and systems to support clinical decision-making and facilitate precision medicine and health, addressing a profound challenge facing biomedicine: **big data**, through a multidisciplinary team-based approach, involving cardiology, gastroenterology, oncology, pathology, radiology, etc. These systems aim to remove barriers to health and healthcare by decreasing diagnosis time, increasing throughput, boosting accuracy, enhancing quality, reducing cost, and expanding accessibility to medical expertise. To help achieve ASU Charter and Goals: “establish, with Mayo Clinic<sup>1</sup>, innovative health solutions pathways capable of . . . enhancing treatment for 2 million patients”, I have established strong collaborations with Mayo Clinic across multiple departments and divisions, and my efforts have led to several multidisciplinary team-based grants. I was selected an inaugural Mayo Clinic-ASU Alliance Fellow. I have published **100+ peer-reviewed publications** in some of the most prestigious journals and conferences in my field, such as IEEE Transactions on Medical Imaging, Medical Image Analysis, CVPR, ICCV, MICCAI, and IPMI. Our papers have been honored in this research area, including a [MICCAI Best Paper Runner Up](#) (2023), a [DART Best Paper Award Runner Up](#) (2023), an [Elsevier MedIA Best Paper Award](#) (2020), a [MICCAI Young Scientist Award](#) (2019), a [Finalist for the MICCAI Best Presentation Award](#) (2019), and a [Finalist for the MICCAI Young Scientist Award](#) (2015). Moreover, I have been awarded **36 US patents** with an additional [40+ patents pending](#). To realize the clinical impact of my developed technologies, I helped found IMANIN and VoxelCloud. My research in lung cancer and colon cancer has led to two FDA-approved products, which are being sold worldwide, benefiting millions of people around the world. I have been known for my **meticulous approach to teaching and mentoring**: I have been nominated thrice for the [Faculty Teaching Award](#) in 2019, 2020, and 2022, and **my students** have received **50+ awards and recognitions** for their achievements, including an [NCWIT Collegiate Award](#) (2022) and an [AMIA Ph.D. dissertation Award](#) [the best dissertation in biomedical informatics worldwide] (2022). I currently serve as an [Associate Editor](#) on the Editor Board of *Medical Image Analysis*, the best journal in my field, and as an [area chair](#) for MICCAI and CVPR, the top conferences in my area. I have served as a [Guest Editor](#) for the *IEEE Transactions on Medical Imaging* (2020-2021). I have also served on the NIH study sections. In recognition of my contributions, I have been elected to a [Fellow](#) of the [National Academy of Inventors \(NAI\)](#) (2021) and received a [Distinguished Faculty Award](#) (2023), a [Sun Award](#) (2020), a [Faculty Mentoring Award](#) (2020), a [Faculty Innovation Award](#) (2019), and the [President’s Award for Innovation](#) (2015). My team is the winner of the [Elsevier Medical Image Analysis Best Paper Award](#) (2020), one of the most prestigious awards in the field.

## RESEARCH INTERESTS

- Machine Learning; Computer Vision; Data Science; and Imaging Informatics and Analytics
- Deep Learning; Biomedical Imaging; Visualization; and Computer-aided Diagnosis, Therapy, and Surgery

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<sup>1</sup>Mayo Clinic is ranked #1 among the best hospitals by the U.S. News & World Report ([health.usnews.com/best-hospitals](https://health.usnews.com/best-hospitals)).

**New accomplishments since 2021 are highlighted below in blue**

## POSITIONS

- **Arizona State University, Tempe, AZ, USA**  
 August 2022 – Present: Full Professor (tenured)  
 August 2016 – August 2022: Associate Professor (tenured)  
 December 2008 – August 2016: Associate Professor (tenure track)  
 Faculties: *Computer Science, Computer Engineering, Biomedical Informatics, and Biomedical Engineering*
- **Mila – Quebec Artificial Intelligence Institute<sup>2</sup>, Montreal, Canada**  
**Centre de recherche du CHUM (CRCHUM)<sup>3</sup>, Montreal, Canada**  
 January 2018 – July 2018: Invited Professor (sabbatical)  
 Topic: *Deep Learning in Biomedical Imaging across Diseases, Modalities, and Specialties*
- **Mayo Clinic, Rochester, MN, USA**  
 January 2018 – Present: Adjunct Associate Professor  
 May 2010 – Present: Research Affiliate  
 Faculty: *Radiology*
- **Arizona Cancer Center, Tucson, AZ, USA**  
 December 2009 – Present: Full Investigator  
 Program: *Cancer Imaging*
- **Siemens Medical Solutions USA, Inc., Malvern, PA, USA**  
 December 2002 – December 2008: Staff Scientist  
 Topic: *Computer-aided Diagnosis and Therapy in Medical Imaging*
- **Advanced Research Group, Analog Design Automation Inc. (ADA)<sup>4</sup>, Ottawa, Canada**  
 January 2001 – December 2002: Senior Research Scientist, NSERC Industrial Research Fellow  
 Topics: *Intelligent Systems, Visualization, and Optimization*
- **North China Institute of Computing Technology (NCI)<sup>5</sup>, Beijing, P. R. China**  
 March 1990 – February 1992: Principal Investigator & Project Manager  
 Project: *“Support Techniques for Decision Making” funded by the National 8:5 Program, The Ministry of Science and Technology, Beijing, P. R. China*

## EDUCATION

- **Turku Centre for Computer Science (TUCS)<sup>6</sup>, Turku, Finland**  
 Doctor of Philosophy in Computer Science, January 2001  
 Thesis: *Dynamic Chest Image Analysis: New Model-based Computer Methods for Dynamic Pulmonary Imaging and Other Applications*  
 Advisors: Prof. Timo Järvi, PhD (Computer Science, University of Turku, Finland)  
 Prof. Martti Kormano, MD (Diagnostic Radiology, University of Turku, Finland)  
 Prof. Tim McInerney (currently at Ryerson University, Toronto, Canada)  
 Prof. Demetri Terzopoulos<sup>7</sup> (currently at the University of California, Los Angeles, USA)
- **Department of Computer Science, University of Toronto, Toronto, Canada**

<sup>2</sup>MILA ([mila.quebec/en](http://mila.quebec/en)) is led by Prof. Yoshua Bengio, one of the three pioneers in deep learning.

<sup>3</sup>CRCHUM ([crchum.com](http://crchum.com)) is the largest biomedical and healthcare research center at Université de Montréal and one of the largest in Canada.

<sup>4</sup>ADA was acquired by Synopsys Inc. ([www.synopsys.com](http://www.synopsys.com)) in February, 2004.

<sup>5</sup>NCI ([www.nci.ac.cn](http://www.nci.ac.cn)) is a top computer science and engineering research institute and affiliated with the Ministry of Electronics, China.

<sup>6</sup>TUCS ([www.tucs.fi](http://www.tucs.fi)) is a center of excellence and a founding member of the European Educational Forum (EEF).

<sup>7</sup>Prof. Terzopoulos ([cs.ucla.edu/~dt](http://cs.ucla.edu/~dt)) is a pioneer of deformable models in computer vision, computer graphics, and medical image analysis.

Visiting PhD Student, April 1998 – March 1999

Topic: *Deformable Models in Medical Image Analysis*

Advisors: Prof. Demetri Terzopoulos<sup>7</sup> (currently at the University of California, Los Angeles, USA)  
Prof. Tim McInerney (currently at Ryerson University, Toronto, Canada)

- **Department of Computer Science, University of Aalborg, Denmark**

Visiting Scholar, March 1992 – August 1994

Topics: *Bayesian Networks, Active Vision, and Medical Informatics*

Advisor: Prof. Finn V. Jensen<sup>8</sup> (Computer Science)

- **North China Institute of Computing Technology (NCI)<sup>5</sup>, Beijing, P. R. China.**

Master of Science in Computer Science, February 1990

Thesis: *Probabilistic Reasoning: Belief Networks and a Toolkit*

Advisors: Prof. Jiaqi Fang (Computer Science, NCI, Beijing, P. R. China)

Prof. Zhuoqun Xu (Computer Science, Peking University, Beijing, P. R. China)

- **University of Science and Technology (UST), Beijing, P. R. China.**

Bachelor of Science in Computer Science, July 1987

Thesis: *The Design and Implementation of a Dynamic Storage Model for RDBMS*

Advisor: Prof. Yongjian Ma (Computer Science, UST, Beijing, P. R. China)

## MEMBERSHIPS

- Fellow, The National Academy of Inventors (NAI)
- Senior Member, The Institute of Electrical and Electronics Engineers (IEEE)
  - IEEE Computer Society (IEEE CS)
  - IEEE Engineering in Medicine and Biology Society (IEEE EMBS)
- Member, The Association for Computing Machinery (ACM)
- Member, The Medical Image Computing and Computer Assisted Intervention Society (MICCAI)
- Member, American Medical Informatics Association (AMIA)
- Member, New York Academy of Sciences (NYAS)

## AWARDS AND HONORS

### Research Grants:

- The ACCESS Resource (12/22/2022 – 12/21/2024); PI: Dr. Liang (2,000,000.0 ACCESS Credits)  
The Extreme Science and Engineering Discovery Environment (XSEDE) supported by the NSF  
*Image Analysis with Omni-Pretraining (MED220025)*. Role: PI  
(Awarded as GPU hours with 2,000,000.0 ACCESS Credits)
- NSF Standard Grant (10/1/2022 – 9/30/2023); PI: Douglas Jennewein (ASU) (\$399,997)  
National Science Foundation (NSF)  
*CC\* Compute: The Arizona Federated Open Research Computing Enclave (AFORCE), an Advanced Computing Platform for Science, Engineering, and Health*. Role: Co-I and Major User
- The XSEDE Resource (1/1/2020 – 6/30/2024); PI: Dr. Liang (\$193,875.24 = \$30,225+\$163,650.24)  
The Extreme Science and Engineering Discovery Environment (XSEDE) supported by the NSF  
*Annotation-Efficient 3D Medical Image Analysis*. Role: PI  
(supplemented in August 2022 with 40,000.0 GPU Hours)
- NIH R01 Grant (7/1/2016 – 4/30/2023); PI: Dr. Liang (\$2.5M)

<sup>8</sup>Prof. Jensen ([people.cs.aau.dk/~fvj](http://people.cs.aau.dk/~fvj)) and his team is renowned for Bayesian networks and applications.

The National Heart, Lung, and Blood Institute (NHLBI), NIH  
*Computer-aided diagnosis of pulmonary embolism*. Role: PI

**Research Grants (to be submitted by the coming deadline):**

- NIH R01 Grant; PI: Dr. Liang (\$4.3M)  
The National Heart, Lung, and Blood Institute (NHLBI), NIH  
*Computer-aided diagnosis of lung diseases*. Role: PI  
(a competitive renewal of my existing R01 grant)

**Research Grants (submitted):**

- NIH Bridge2AI Program; PI: Dr. Cody Bumgardner (UK) (\$36M)  
The National Institutes of Health (NIH)  
*Foundations supporting self-learning and clinically validatable AI*. Role: ASU PI (\$7M) (2021)
- Advanced Computing Systems & Services: Adapting to the Rapid Evolution of Science and Engineering Research; PI: Dr. Tabitha Samuel  
National Science Foundation (NSF)  
*Category II: SAFEPoD - Secure and Accessible Framework for Enabling the Protection of Data*.  
Role: Co-PI (2023)
- The Major Research Instrumentation (MRI) Program; PI: Dr. Amarsagar Reddy Ramapuram Matavalam  
National Science Foundation (NSF)  
*MRI: Track 1: Acquisition of an AI/ML Cluster for Accelerating Data-Driven Science and Engineering*.  
Role: Co-PI (2023)
- American Cancer Society (ACS); PI: Dr. John Chang  
Artificial Intelligence Based Second Observer (AI-observer) for Detecting Colorectal Cancer on Routine CT of the Abdomen and Pelvis (CTAP). Role: Co-PI (2022)

**Research Grants (completed):**

- The XSEDE Resource (4/1/2019 – 12/31/2019); PI: Dr. Liang (\$10,500)  
The Extreme Science and Engineering Discovery Environment (XSEDE) supported by the NSF  
*Active transfer learning for biomedical imaging*. Role: PI
- ABRC Arizona Investigator Grant (07/01/2017 – 06/30/2020); PI: Dr. Liu (\$750K)  
Arizona Biomedical Research Commission (ABRC)  
*Towards Precise Intensity-Modulated Proton Therapy for Lung Cancer*. Role: subaward PI
- Erickson Student Summer Support (5/8/2017 – 5/7/2018); PI: Dr. Liang  
Mayo Clinic, Scottsdale, AZ  
*Deep Learning in medical Imaging*. Role: PI
- Marley Fund Student Support (8/1/2017 – 2/28/2018); PI: Dr. Liang  
Mayo Clinic, Scottsdale, AZ  
*Proton Therapy*. Role: PI
- Mayo Development Award (12/01/2015 – 12/01/2017); PI: Dr. Liang  
Mayo Clinic, Scottsdale, AZ  
*Personalized proton therapy for lung cancer*. Role: PI
- Mayo Research Award (9/1/2016 – 8/31/2017); PI: Dr. Liang  
Mayo Clinic, Scottsdale, AZ  
*Preliminary clinical study of algorithms for determining the quality of colonoscopy*. Role: PI

- Faculty Summer Residency Program (5/8/2017 – 8/5/2017); PI: Dr. Liang  
Mayo Clinic and ASU Alliance  
*Towards a Comprehensive Decision Support Environment in Biomedical Imaging for Value-based Health Care Delivery.* Role: PI
- ASU-Mayo Seed Award (01/01/2015 – 12/31/2015); PI: Dr. Liang  
Arizona State University and Mayo Clinic, Scottsdale, AZ  
*Robust intensity-modulated proton therapy for lung cancer.* Role: PI
- ASU-Mayo Seed Research Award (01/01/2014 – 12/31/2015); PI: Dr. Liang  
Arizona State University and Mayo Clinic, Scottsdale, AZ  
*Developing computer algorithms to ensure high-quality colonoscopy.* Role: PI
- FURNACE Grant (01/01/2013 – 12/31/2014); Liang (PI)  
Arizona Technology Enterprises and the State of Arizona, Phoenix, AZ  
Pre-commercializing software for carotid intima-media thickness image interpretation
- Discovery Translation Grant (07/01/2012 – 6/30/2015); PI: Dr. Liang  
Mayo Clinic in Rochester, Minnesota, USA  
*The development of a highly efficient and user-friendly software system for carotid intima-media thickness image interpretation.* Role: PI
- ASU-Mayo Seed Research Award (01/01/2012 – 6/30/2014); PI: Dr. Liang  
Arizona State University and Mayo Clinic, Scottsdale, AZ  
*Diagnosis and prognosis of pulmonary embolism in CT pulmonary angiography.* Role: PI
- Mayo Clinic Research Award (CR20) (05/01/2010 – 08/31/2011); PI: Dr. Liang  
Mayo Clinic, Scottsdale, AZ  
*Developing image analysis algorithms for measuring carotid intima-media thickness.* Role: PI
- ASU-Mayo Seed Research Award (01/01/2010 – 12/31/2011); PI: Dr. Liang  
Arizona State University and Mayo Clinic, Phoenix, AZ  
*Left ventricular untwisting: Diagnostic role and biomechanical evaluation in acute mild and moderate elevation of right ventricular afterload in acute pulmonary embolism.* Role: PI

#### Awards and Recognitions:

- The Best Paper Award Runner Up (October 12, 2023)  
The 5th MICCAI Workshop on Domain Adaptation and Representation Transfer (DART)
- MICCAI Best Paper Runner Up (October 11, 2023)  
The MICCAI Society
- Distinguished Faculty Award (May 2023)  
College of Health Solutions, Arizona State University
- Professor of Impact Award (May 2023)  
CSE 591 Students, Arizona State University
- Nominated for Faculty Teaching Award (May, 2023)  
College of Health Solutions, Arizona State University
- Poster Award Second Prize, Faculty Research Day (Jan 25, 2023)  
College of Health Solutions, Arizona State University
- Elected Fellow of the National Academy of Inventors (December, 2021)  
Arizona State University

- Best Paper Award (October, 2020)  
Elsevier *Medical Image Analysis*
- Faculty Mentoring Award (May, 2020)  
College of Health Solutions, Arizona State University
- Nominated for Faculty Teaching Award (May, 2020)  
College of Health Solutions, Arizona State University
- Sun Award (September, 2020)  
Arizona State University
- Faculty Innovation Award (May, 2019)  
College of Health Solutions, Arizona State University
- Elected Senior Member of the National Academy of Inventors (April, 2019)  
The National Academy of Inventors and Arizona State University
- Nominated for Faculty Teaching Award (May, 2019)  
College of Health Solutions, Arizona State University
- Certificate of Recognition (May, 2019)  
University Senate, Arizona State University
- Inducted into the National Academy of Inventors (March, 2017)  
Elected as an inaugural member of the ASU chapter of the NAI
- Mayo Clinic-ASU Alliance Fellow (February, 2017)  
Arizona State University and Mayo Clinic
- Presidential Poster Award, the American College of Gastroenterology (October, 2016)  
*Not All Visual Data Acquired During Withdrawal Phase (WP) of Colonoscopy Is Interpretable: Introducing the Concept of "Effective" WP Time*, the 81st Annual Meeting, October 14 - 19, 2016, Las Vegas, Nevada.
- Certificate of Recognition (May, 2016)  
University Senate, Arizona State University
- President's Award for Innovation (March, 2015)  
Arizona State University
- Women & Philanthropy Finalist (March, 2015)  
Arizona State University
- Certificate of Recognition (May, 2015)  
University Senate, Arizona State University
- MICCAI 2009 Travel Award (September, 2009)  
International Conference on Medical Image Computing and Computer Assisted Intervention, London, UK
- NSERC Industrial Research Fellowship (January 2001 – December 2002)  
The Natural Sciences and Engineering Research Council of Canada (NSERC), Ottawa, Canada

**Student Awards:**

- Faculty Research Award (January, 2000)  
Faculty of Mathematics and Natural Sciences, University of Turku, Finland
- Instrumentarium Scholarship (1999)  
Instrumentarium (now GE Europe) Science Foundation, Helsinki, Finland



- Doctoral Scholarship (1994 – 1999)  
Turku Centre for Computer Science, Turku, Finland
- Instrumentarium Scholarship (1998)  
Instrumentarium (now GE Europe) Science Foundation, Helsinki, Finland
- Visiting Scholarship (1992 – 1994)  
Aalborg University, Aalborg, Denmark
- Special Award for Techniques (1989)  
North China Institute of Computing Technology (NCI), Beijing, P. R. China.
- Excellent Paper Award (1988)  
North China Institute of Computing Technology (NCI), Beijing, P. R. China.
- San-Hao Graduating Student (1987)  
University of Science and Technology, Beijing, P. R. China.
- Excellent Student in Study (1985–1986 Academic Year)  
University of Science and Technology, Beijing, P. R. China.
- San-Hao Student (1985–1986 Academic Year)  
University of Science and Technology, Beijing, P. R. China.
- San-Hao Student (1984–1985 Academic Year)  
University of Science and Technology, Beijing, P. R. China.

**Note:** San-Hao is the highest title for advanced students (top 1–2 percent). These honors exempted me from the National Graduate Examination for Master's Studies at NCI, a top computer science and engineering research institute in China.

## AWARDS AND HONORS TO MY STUDENTS

### **Zongwei Zhou:**

- [The AMIA Doctoral Dissertation Award First Prize, September 13, 2022](#)
- [University Graduate Fellowship, Arizona State University, March 5, 2021](#)
- Elsevier-MedIA Best Paper Award, Medical Image Analysis, October 7, 2020
- Sun Award, Arizona State University, September 7, 2020
- MICCAI Student Participation Award, MICCAI-2020, August 21, 2020
- The first & third places in Annual Student Poster Competition, BMI/BMD Symposium, April 24, 2020
- University Graduate Fellowship, Arizona State University, March 18, 2020
- Young Scientist Award, MICCAI-2019, October 16, 2019
- Best Presentation Award Finalist, MICCAI-2019, October 16, 2019
- Graduate Student Travel Award, MICCAI-2019, August 7, 2019
- CHS Grad Student Travel Support, CHS, July 23, 2019
- The first place in the Annual Student Poster Competition, BMI/BMD Symposium, April 26, 2019

### **Md Mahfuzur Rahman Siddiquee:**

- Engineering Graduate Fellowship, by Ira A. Fulton School of Engineering, May 4, 2020
- Travel Grant, CVPR 2020, by GPSA, April 29, 2020
- Student Travel Award, by ICCV 2019, October 14, 2019
- CIDSE Conference Travel Award, ICCV 2019, by ASU School of Computing, Informatics, and Decision Systems Engineering, September 23, 2019

- Travel Grant, ICCV 2019, by GPSA, August 30, 2019
- Travel Grant, CVPR 2019, by GPSA, March 26, 2019
- The second Place in the Annual Student Poster Competition, BMI/BMD Symposium, April 13, 2019

**Vatsal Sodha**

- Elsevier-MedIA Best Paper Award, Medical Image Analysis, October 7, 2020
- Engineering Graduate Fellowship, by Ira A. Fulton School of Engineering, date 2019-20
- Engineering Graduate Fellowship, by Ira A. Fulton School of Engineering, date 2018-19
- Travel Grant, CVPR 2019, by GPSA, June 2019

**Mohammad Reza Hosseinzadeh Taher**

- The Best Paper Award Runner Up, DART 2023, October 12, 2023
- MICCAI 2023 Outstanding Reviewer Award Honorable Mention, October 11, 2023
- Travel Grant, MICCAI 2023, by GPSA, October 2nd, 2023
- Certificate of GPSA Research Grant Reviewer, May 8th, 2023
- Certificate of GPSA Travel Grant Reviewer, May 8th, 2023
- Travel Grant, CVPR 2022, by GPSA, April 25th, 2022
- SCAI Doctoral Fellowship, March 1, 2022
- ASU Teaching Excellence Award, by ASU SCAI, December 6, 2021
- ASU Outstanding Research Award, by GPSA, December 6, 2021
- Travel Grant, MICCAI 2021, by GPSA, September 2, 2021
- Travel Grant, CVPR 2021, by GPSA, April 19, 2021
- Reviewer Excellence, by GPSA, December 4, 2020
- Travel Grant, MICCAI 2020, by GPSA, July 30, 2020
- Travel Grant, IPAM 2020, by GPSA, December 27, 2019

**Fatemeh Haghighi**

- Professor of Impact Award, by ASU, May 6, 2023
- Nominated for 2023 Google PhD Fellowship by ASU, September 20, 2022
- IEEE TMI Distinguished Reviewer Certificate, August 27th, 2022
- Travel Grant, CVPR 2022, by GPSA, April 25th, 2022
- NCWIT Collegiate Award Winner, by NCWIT, April 14, 2022
- NCWIT Collegiate Award Finalist, by NCWIT, December 23, 2021
- ASU Outstanding Research Award, by GPSA, December 6, 2021
- ASU Teaching Excellence Award, by ASU SCAI, December 6, 2021
- Travel Grant, MICCAI 2021, by GPSA, August, 2021
- MICCAI Society Student Participation Award, MICCAI-2021, August 5, 2021
- Travel Grant, CVPR 2021, by GPSA, April 19, 2021
- University Graduate Fellowship, Arizona State University, March 24, 2021
- MICCAI 2020 NIH Awards, September 17, 2020
- Travel Grant, MICCAI 2020, by GPSA, July 30, 2020
- Travel Award, Institute for Pure and Applied Mathematics (IPAM) 2020, October, 2019

**Jiaxuan Pang**

- MICCAI Best Paper Runner Up, MICCAI 2023, October 11, 2023
- Travel Grant, CVPR 2023, by GPSA, April 25th, 2023
- Poster Award Second Prize, Faculty Research Day, Jan 25, 2023



- Travel Grant, CVPR 2022, by GPSA, April 25th, 2022
- Elsevier-MedIA Best Paper Award, Medical Image Analysis, October 7, 2020

### **DongAo Ma**

- MICCAI Best Paper Runner Up, MICCAI 2023, October 11, 2023
- 2023-24 Graduate College Travel Award Q2, by Graduate College, September 28, 2023
- SCAI Conference Funding, by SCAI, September 22nd, 2023
- The Best Paper and Young Scientist Award Nomination, MICCAI Society, September, 2023
- Travel Grant, MICCAI 2023, by GPSA, July 31, 2023
- MICCAI 2023 STudent Author Registration (STAR) Awards, by MICCAI Society, July 19, 2023
- Certificate of GPSA Travel Grant Reviewer, May 8th, 2023
- Travel Grant, CVPR 2023, by GPSA, April 25th, 2023
- Travel Grant, MICCAI 2022, by GPSA, August 27, 2022
- Travel Grant, CVPR 2022, by GPSA, April 25th, 2022

### **Nahid Islam**

- Travel Grant, MICCAI 2022, by GPSA, August 27, 2022
- Travel Grant, CVPR 2022, by GPSA, April 25th, 2022

### **Zuwei Guo**

- Travel Grant, DART 2022, by GPSA, August 27, 2022

### **Yasar Mehmood**

- NVidia Academic Hardware Grant, March 12th, 2022

### **Madhumitha Saravanan**

- MICCAI Society Participation Grant 2023

### **Andrew Yang**

- The 2nd place: Senior Division: Computational Biology & Bioinformatics

## **PUBLICATIONS**

### **Editorials (advisee names in bold)**

1. Xiaohao Cai, Youwei Wen, and Jianming Liang. Editorial: Segmentation and classification: theories, algorithms and applications. *Frontiers in Computer Science*, 6 (1), 2024 (available online in November 2023)
2. **N. Tajbakhsh**, H. Roth, D. Terzopoulos, and J. Liang. Annotation-Efficient Deep Learning: The Holy Grail of Medical Imaging. *IEEE Transactions on Medical Imaging*, 40 (10), 2526–2533, 2021 [8 pages; Impact Factor: 10.048 (the best journal in medical imaging)].

### **Peer-Refereed Journal Publications (advisee names in bold)**

1. **Mohammad Reza Hosseinzadeh Taher**, **Fatemeh Haghighi**, Michael B. Gotway, Jianming Liang. Large-scale Benchmarking and Boosting Transfer Learning for Medical Image Analysis *Medical Image Analysis* (under review), [23 pages; Impact Factor: 13.828 (the best journal in medical image analysis)].
2. **Zuwei Guo**, **Nahid Ul Islam**, Michael B. Gotway, Jianming Liang. Stepwise Incremental Pretraining for Integrating Discriminative, Restorative, and Adversarial Learning. *Medical Image Analysis* (in revision), [11 pages; Impact Factor: 13.828 (the best journal in medical image analysis)].

3. **Fatemeh Haghighi, Mohammad Reza Hosseinzadeh Taher**, Michael B. Gotway, Jianming Liang. Self-supervised Learning for Medical Image Analysis: Discriminative, Restorative, or Adversarial? *Medical Image Analysis* (in press), [19 pages; Impact Factor: 13.828 (the best journal in medical image analysis)].
4. **Nahid Ul Islam, Zongwei Zhou, Shiv Gehlot, Utkarsh Nath**, Michael B. Gotway, Jianming Liang. Seeking an Optimal Approach for Computer-aided Diagnosis of Pulmonary Embolism. *Medical Image Analysis* 91:102988, 2024 [21 pages; Impact Factor: 13.828 (the best journal in medical image analysis)]. (Available online 13 October 2023)
5. **Z. Zhou, J. Y. Shin**, S. Gurudu, M. Gotway, and J. Liang. Active, Continual Fine Tuning of Convolutional Neural Networks for Reducing Annotation Efforts. *Medical Image Analysis*, 71:101997, 2021 [15 pages; Impact Factor: 11.148 (the best journal in medical image analysis)].
6. **F. Haghighi, M. R. Hosseinzadeh Taher, Z. Zhou**, M. B. Gotway, and J. Liang. Transferable Visual Words. *IEEE Transactions on Medical Imaging*, 40 (10), 2857–2868, 2021 [12 pages; Impact Factor: 10.048 (the best journal in medical imaging)].
7. **Z. Zhou, V. Sodha, J. Pang**, M. B. Gotway, and J. Liang. Models Genesis. *Medical Image Analysis*, 67:101840, 2021 [23 pages; Impact Factor: 11.148 (the best journal in medical image analysis)] (received the Elsevier MedIA Best Paper Award)
8. **A. Chen, J. Zhang, L. Zhao**, R. D. Rhoades, D. Y. Kim, **N. Wu**, J. Liang, and J. Chae. Machine-learning enabled wireless wearable sensors to study individuality of respiratory behaviors. *Biosensors and Bioelectronics* 173 (2021): 112799. [10 pages; Impact Factor: 10.257].
9. **Z. Zhou, M. M. Rahman Siddiquee, N. Tajbakhsh**, and J. Liang. UNet++: Redesigning Skip Connections to Exploit Multi-Resolution Features in Image Segmentation. *IEEE Transactions on Medical Imaging*, 39 (6), 1856–1867, 2019 [12 pages; Impact Factor: 10.048 (the best journal in medical imaging)].
10. **N. Tajbakhsh, J. Y. Shin**, M. Gotway, and J. Liang. Computer-aided Detection and Visualization of Pulmonary Embolism Using a Novel, Compact, and Informative Image Representation. *Medical Image Analysis* 58, 101541. December 2019, [13 pages; Impact Factor: 11.148 (the best journal in medical image analysis)].
11. **Z. Zhou, J. Y. Shin**, and J. Liang. Integrating active learning and transfer learning for carotid intima-media thickness video interpretation. *Journal of Digital Imaging*, 32(2):290–299, 2019 [10 pages; Impact Factor: 3.697 (the best journal in imaging informatics)].
12. S. V. Aksenov, K. A. Kostin, A. V. Ivanova, J. Liang, and A. V. Zamyatin. An ensemble of convolutional neural networks for the use in video endoscopy. *Modern Technologies in Medicine*, 10(2), 7–17, 2018. DOI: 10.17691/stm2018.10.2.01
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#### Peer-Refereed Conference Full Publications (advisee names in bold)

1. **Ziyu Zhou, Haozhe Luo, Jiaxuan Pang**, Xiaowei Ding, M. B. Gotway, and J. Liang. Learning Anatomically Consistent Embedding for Chest Radiography. In *Proceedings of the 34th British Machine Vision Conference (BMVC 2023)* [22 pages with supplementary materials] (one of the best conferences in machine vision).
2. **M. R. Hosseinzadeh Taher**, M. B. Gotway, and J. Liang. Towards Foundation Models Learned from Anatomy in Medical Imaging via Self-supervision. In *Proceedings of the 5th MICCAI Workshop on Domain Adaptation and Representation Transfer (DART 2023)* [19 pages with supplementary materials] (the best workshop in representation learning).
3. **D. Ma, J. Pang**, M. B. Gotway, and J. Liang. Foundation Ark: Accruing and Reusing Knowledge for Superior and Robust Performance. In *Proceedings of the 26th International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI 2023)* [17 pages with supplementary materials] (the most prestigious conference in image computing).
4. **D. Ma, M. R. Hosseinzadeh Taher, J. Pang, N. U. Islam, F. Haghighi**, M. B. Gotway, and J. Liang. Benchmarking and Boosting Transformers for Medical Image Classification. In *Proceedings of the 4th MICCAI Workshop on Domain Adaptation and Representation Transfer (DART 2022)* [13 pages with supplementary materials] (the best workshop in representation learning).
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6. **J. Pang, F. Haghighi, D. Ma, N. U. Islam, M. R. Hosseinzadeh Taher**, M. B. Gotway, and J. Liang. POPAR: Patch Order Prediction and Appearance Recovery for Self-supervised Medical Image Analysis. In *Proceedings of the 4th MICCAI Workshop on Domain Adaptation and Representation Transfer (DART 2022)* [13 pages with supplementary materials] (the best workshop in representation learning).
7. **M. R. Hosseinzadeh Taher, F. Haghighi**, M. B. Gotway, and J. Liang. DiRA: Discriminative, Restorative, and Adversarial Learning for Self-supervised Medical Image Analysis. In *Proceedings of the IEEE conference on computer vision and pattern recognition (CVPR 2022)* pages 20824–20834, 2022. [16 pages with supplementary materials] (the top conference in computer vision and pattern recognition; H5-index: 389; ranked #4 by Google Scholar just behind *Nature*, *NEJM*, and *Science*)
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9. **N. U. Islam, S. Gehlot, Z. Zhou**, M. B. Gotway, and J. Liang. Seeking an Optimal Approach for Computer-Aided Pulmonary Embolism Detection. In *Machine Learning in Medical Imaging*, Springer, 2021 [16 pages with supplementary materials (the best workshop in machine learning for medical image analysis)].
10. **M. R. Hosseinzadeh Taher, F. Haghighi, R. Feng**, M. B. Gotway, and J. Liang. A Systematic Benchmark-



- ing Analysis of Transfer Learning for Medical Image Analysis, In *Domain Adaptation and Representation Transfer*, Springer, 2021 [20 pages with supplementary materials (the best workshop in representation learning)].
11. **F. Haghighi, M. R. Hosseinzadeh Taher, Z. Zhou, M. B. Gotway, and J. Liang.** Learning semantics-enriched representation via self-discovery, self-classification, and self-restoration. In *International Conference on Medical Image Computing and Computer-Assisted Intervention*, pages 137–147. Springer, 2020. [13 pages; H-index: 61 (the most prestigious conference in image computing)].
  12. **R. Feng, Z. Zhou, M. B. Gotway, and J. Liang.** Parts2Whole: Self-supervised Contrastive Learning via Reconstruction, In *Domain Adaptation and Representation Transfer, and Distributed and Collaborative Learning*, pages 85–95. Springer, 2020. [13 pages with supplementary materials (the best workshop in representation learning)].
  13. **Zongwei Zhou, Vatsal Sodha, M. M. Rahman Siddiquee, Ruibin Feng, Nima Tajbakhsh,** Michael Gotway, and Jianming Liang. Models Genesis: Generic Autodidactic Models for 3D Medical Image Analysis. In *International Conference on Medical Image Computing and Computer-Assisted Intervention*, pages 384–393. Springer, 2019. [27 pages; H-index: 61 (the most prestigious conference in image computing)].
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  20. **N. Tajbakhsh,** M. Gotway, and J. Liang. Computer-aided pulmonary embolism detection using a novel vessel-aligned multi-planar image representation and convolutional neural networks. *Medical image computing and computer-assisted intervention*, Lecture Notes in Computer Science, 9350:62–9, 2015. (**Selected as a Finalist for a Young Scientist Award at MICCAI 2015**, one of the three most prestigious

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### Book Chapters (advisee names in bold)

1. **Zongwei Zhou**, Michael B. Gotway and Jianming Liang. Interpreting Medical Images. *Intelligent Health Systems in Medicine and Health: The Role of AI*. edited by Trevor A. Cohen, Vimla L. Patel and Edward H. Shortliffe, Springer. 2022 [the first textbook in the field].
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- I63. **Xiaotao Zou**, Jianming Liang, Matthias Wolf, and Marcos Salganicoff. *Anatomy-based automatic detection and segmentation of major vessels in thoracic CTA images*. (US Provisional Patent Application: 2007E00490 US, filed on January 10, 2007)
- I64. Jianming Liang, Matthias Wolf, and Marcos Salganicoff. *Toboggan-based method for automatic detection and segmentation of objects in image data*. (US Patent Application: 11/247609, filed on October 11, 2005; combined provisional 2004P17430 US and 2004P17416 US, filed on October 12, 2004)
- I65. Jianming Liang, Sriram Krishnan, and R. Bharat Rao. *Medical diagnostic ultrasound characterization of cardiac motion*. (US Patent Application: 11/184,598, filed on July 19, 2005; Provisional: 2004P16919 US, filed on October 4, 2004)
- I66. Jianming Liang and Luca Bogoni. *System and method for object characterization of toboggan-based clusters*. (US Patent Application: 11/174,028, filed on July 1, 2005; Provisional: 2004P12261 US, filed on July 20, 2004).

#### PUBLICLY RELEASED SOFTWARE

1. Large-scale Benchmarking and Boosting Transfer Learning for Medical Image Analysis (<https://github.com/JLiangLab/BenchmarkTransferLearning>, Version 2), 2024
2. Learning Anatomically Consistent Embedding for Chest Radiography (<https://github.com/JLiangLab/PEAC>), 2023
3. Training foundation models by accruing and reusing knowledge from heterogeneous expert annotations (<https://github.com/JLiangLab/Ark>), 2023
4. Learning foundation models from anatomy in medical imaging via self-supervision (<https://github.com/JLiangLab/Eden>), 2023
5. Achieving discriminative, restorative, and adversarial learning via stepwise incremental pretraining (<https://github.com/JLiangLab/StepwisePretraining>), 2022 (v1) and 2023 (v2)
6. Benchmarking and boosting transformers for medical image classification (<https://github.com/JLiangLab/BenchmarkTransformers>), 2022
7. Restoring patch order and appearance for self-supervised medical image analysis (<https://github.com/JLiangLab/POPAR>), 2022
8. Developing context-aware instance discrimination for self-supervised framework (<https://github.com/JLiangLab/CAiD>), 2022
9. Uniting discriminative, restorative, and adversarial learning for self-supervised medical image analysis (<https://github.com/JLiangLab/DiRA>), 2022 (v1) and 2023 (v2)
10. Benchmarking transfer learning for medical imaging (<https://github.com/JLiangLab/BenchmarkTransferLearning>), 2021
11. Evaluating and optimizing deep learning methods for computer-aided diagnosis of pulmonary embolism ([https://github.com/jlianglab/CAD\\_PE](https://github.com/jlianglab/CAD_PE)), 2021 (v1) and 2023 (v2)
12. Exploiting the semantics of anatomical patterns for self-supervised learning (<https://github.com/JLiangLab/TransVW>), 2021  
(<https://github.com/JLiangLab/SemanticGenesis>), 2020
13. Building a primary source of transfer learning for 3D medical imaging applications (<https://github.com/JLiangLab/ModelsGenesis>), 2019 (v1) and 2020 (v2)
14. Learning fixed points in generative adversarial networks (<https://github.com/JLiangLab/Fixed-Point-GAN>), 2019
15. Advancing deep architectures for medical image segmentation (<https://github.com/JLiangLab/UNetplusplus>), 2018 (v1) and 2019 (v2)

## ADVISING/MENTORING

### Primary Mentor

#### Adjunct Assistant Professor

1. Ruibin Feng, since 2021  
Topic: *Self-supervised learning for medical imaging*
2. Nima Tajbakhsh, 2019 – 2021  
Topic: *Deep learning for biomedical image analysis*

#### Visiting Assistant Professor

3. Qiufeng Wu, 2016 – 2017  
Topic: *Deep learning for biomedical image analysis*

**Postdoctoral Fellows**

4. Ruibin Feng, 2018–2021 (**completed** in May, 2021)
5. Lei Zhang, 2016 – 2017 (**completed** in October, 2017)
6. Kun Deng, 2009 – 2010 (**completed** in August, 2010)

**PhD Students (Committee Chair)**

7. Anthony Yanan PhD student, since August 2023
8. Kamyab Keshtkar PhD student, since August 2022
9. DongAo Ma, PhD student, since August 2020
10. Nahid Islam, PhD student, since July 2020
11. Jiaxuan Pang, PhD student, since August 2019
12. Pengfei Zhang, PhD student, August 2019 – June 2021
13. Zuwei Guo, PhD student, since 2018
14. Mohammad Reza Hosseinzadeh Taher, PhD student, since August 2018
15. Fatemeh Haghighi, PhD student, since August, 2018
16. Zongwei Zhou, PhD student, 2017–2021 (**graduated** in April 2021)  
Dissertation: *Towards Annotation-Efficient Deep Learning in Medical Image Analysis*
17. Md Mahfuzur Rahman Siddiquee, PhD student, August 2017 – October, 2020
18. Nima Tajbakhsh, PhD student, 2010 – 2015 (**graduated** in April 2015)  
Dissertation: *Ensuring high-quality colonoscopy*
19. Gazi Islam, PhD student, 2009 – 2013 (**graduated** in May, 2013)  
Dissertation: *Informatics approach to improving surgical skills training*  
(Funded by Drs. Baoxi Li and Kanav Kahol)

**Visiting Students**

20. Ziyu Zhou, Visiting PhD student, since May 15, 2023  
Project: *Deep learning in medical imaging*
21. Jiarui Liang, Visiting Master's student, since November 21, 2022  
Project: *Deep learning in medical imaging*
22. Yasar Mehmood, Visiting PhD student, since July 25, 2022  
Project: *Deep learning in medical imaging*
23. Haozhe Luo, Visiting Master's student, April 25, 2022 – November 10, 2023  
Project: *Deep learning in medical imaging*
24. Donggang Jia, Visiting Master's student, January 2021 – January 2022  
Project: *Deep learning in medical imaging*
25. Shiv Kumar Gehlot, Visiting PhD student, since January 2021 – January 2022  
Project: *Computer-aided diagnosis of pulmonary embolism*
26. Esra Dincer, Visiting PhD student, 2014 – 2015 (**graduated** in May, 2016)  
Project: *Computer-aided diagnosis of pulmonary embolism*
27. Anis Drira, Visiting PhD student, 2013 (**graduated** in December 2015)  
Thesis: *Characterization of optimal cyber attacks on control systems*  
Topic: *Control systems*



**Master's Students (Thesis Committee Chair)**

28. Rishit Ratna, Master's Student, since December 2023
29. Himansh Mudigonda, Master's Student, since December 2023
30. Shikhhar Siingh, Master's Student, since December 2023
31. Tianchen Mu, Master's Student, January 2023 – July 2023 (co-chair with Professor Efrem Lim at Biodesign)
32. Ziyi Fan, Master's Student, December 2022 – May 2023 (**graduated** in December 2022)  
Thesis: *A Generic Unified Deep Model for Learning from Multiple Tasks*
33. Madhumitha Saravanan, Master's Student, since December 2022
34. Shivasakthi Senthil Velan, Master's Student, since December 2022
35. Guru Prasad Kempegowdanahalli Somashekar, Master's Student, December 2021 – May 2022
36. Shivam Bajpai, Master's Student, 2019–2021 (**graduated** in April 2021)  
Thesis: *Pre-trained Models for nnU-Nets*
37. Diksha Goyal, Master's student, 2018 – 2021 (**graduated** in April 2021)  
Thesis: *Medical Image Segmentation using Interactive Refinement*
38. Vatsal Sodha, Master's student, August, 2018 – July, 2020 (**graduated** in July 2020)  
Thesis: *Self-supervised Representation Learning via Image Out-painting for Medical Image Analysis*
39. Douglas Amoo-Sargon, Master's student, 2018 – 2019 (**graduated** in May 2019)  
Project: *Computer-aided diagnosis of pulmonary embolism*
40. Naveen Sai Madiraju, Master's student, 2016 – 2018 (**graduated** in August 2018)  
Thesis: *Deep Temporal Clustering: Fully Unsupervised Learning of Time-Domain Features*
41. Jie Shan, Master's student, 2016 – 2018 (**graduated** in May 2018)  
Thesis: *Robust intensity-modulated proton therapy for lung cancer*
42. Rujuta Panvalkar, Master's student, 2016 – 2017 (**graduated** in May 2017)  
Topic: *Deep learning in medical image analysis*
43. Zijie Yuan, Master's student, 2015 – 2016 (**graduated** in December 2016)  
Topic: *Biomedical image analysis*
44. Jaeyul Shin, Master's student, 2014 – 2016 (**graduated** in May 2016)  
Thesis: *A Unified Framework based on Convolutional Neural Networks for Interpreting Carotid Intima-Media Thickness Videos*
45. Chang-Ching Chi, Master's student, 2013 – 2014 (**graduated** in January 2014)  
Project: *Informativeness assessment of colonoscopy videos*
46. Noelle Snyder, Master's student, 2013 – 2015 (**graduated** in May 2015))  
Thesis: *Measuring longitudinal change of MRI and FDG-PET imaging markers in Alzheimer's disease*
47. Haripriya Sharma, Master's student, 2012 – 2014 (**graduated** in May 2014)  
Project: *Automatic frame selection for interpreting carotid intima-media thickness videos*
48. Ramsri Golla, Master's student, 2012-2013 (**graduated** in May 2013)  
Project: *Automatic localization of regions of interest for interpreting CIMT videos*
49. Yu Zhang, Master's student, 2012 – 2013 (**graduated** in May 2013)  
Project: *Implementing carotid intima-media thickness interpretation software in Java*
50. Abhinav Bhargava, Master's student, 2011 – 2013 (**graduated** in August 2013)

Thesis: Seizures localization using 3-D object detection algorithm

51. Xiangjun Zhu, Master's student, 2009 – 2011 (**graduated** in May 2011)

Project: *Carotid intima-media thickness image analysis*

52. Hong Wu, Master's student, 2009 – 2011 (**graduated** in August, 2011)

Thesis: *Offline and online adaboost for detecting anatomic structures*

### **Research Staff**

53. Jae Yul Shin, Research Software Engineer, since 2016

Topic: *Deep learning for biomedical image analysis*

54. Zachary Winzurk, Research Volunteer, June 2020 – June 2021

Topic: *Animal fine-grain recognition*

55. Douglas Amoo-Sargon, Research Technologist, May 2019 – December 2019

Topic: *Deep learning for biomedical imaging*

56. Zijie Yuan, Research Technologist, 2017 – 2018

Topic: *Deep learning for biomedical image analysis*

57. Zongwei Zhou, Research Technologist, 2016 – 2017

Topic: *Computer-aided diagnosis*

58. Young K. Chung, Research Software Engineer, 2016

Topic: *Computer-aided diagnosis*

### **PhD Students (Research Project Adviser)**

59. Utkarsh Nath, PhD student, October 2021 – April, 2022

Topic: *Deep learning for biomedical imaging*

60. Tariq M. Nasim, PhD student, July 2020 – December, 2020

Topic: *Deep learning for biomedical imaging*

61. Michael Lin, PhD student, 2017

Topic: *Deep learning for biomedical imaging*

62. Shailaja Keyur Sampat, PhD student, 2017

Topic: *Machine learning for biomedical imaging*

63. Mohamed Izady, PhD student, 2015

Topic: *Endomicroscopy video analysis*

64. Wenzhe Xue, PhD student, 2010 – 2014

Topic: *Biomedical image segmentation*

### **Master's Students (Research Project Adviser)**

65. Manas Chetan Valia, Master's student, January 2022 – July, 2022

Topic: *Computer-aided diagnosis in biomedical imaging*

66. Daniel Mathew, Master's student, January 2020 – August, 2020

Topic: *Computer vision and biomedical imaging*

67. Gaurav Fotedar, Master's student, January 2019 – August 2019

Topic: *Deep learning for biomedical imaging*

68. Ehsan Khosravani, Master's student, 2018

Topic: *Deep learning for biomedical imaging*

69. Zheng Xia, Master's student, 2017

Topic: *Biomedical image analysis*

70. Verah Nyarige, Master's student, 2016 – 2017  
Topic: *Imaging informatics*
71. Sriravali Kamthamraju, Master's student, 2016 – 2017  
Topic: *Biomedical image analysis*
72. Yunyi Liu, Master's student, 2016 – 2017  
Topic: *Biomedical image analysis*
73. Andrew Solomon, Master's student, 2016 – 2017  
Topic: *Computer-aided diagnosis*
74. Anirudh Som, Master's student, 2014 – 2015  
Topic: *Video quality of colonoscopy*
75. Tracy Phan, Master's student, since 2014 – 2015  
Topic: *Ground truth for colonoscopy*
76. Sreenivas Shenoy, Master's student, 2014 – 2015  
Topic: *Ground truth for colonoscopy*

#### **Master's Capstone Project Students**

77. Nicholas Peters, Undergraduate student, October 2021 – May 2022  
Topic: *Biomedical imaging*
78. Jeremiah Levitt, Undergraduate student, October 2021 – May 2022  
Topic: *Biomedical imaging*
79. Brian-Kalani Headen, Undergraduate student, October 2021 – May 2022  
Topic: *Biomedical imaging*
80. Richard Yan, Undergraduate student, October 2021 – May 2022  
Topic: *Biomedical imaging*
81. Cristian Lee, Undergraduate student, October 2021 – May 2022  
Topic: *Biomedical imaging*
82. Ryan Pan, Undergraduate student, January 2021 – August 2021  
Topic: *Imaging Informatics*

#### **Undergraduate Research Students**

83. Daniella Asare, Undergraduate student, October 2020 – December 2021  
Topic: *Biomedical imaging*
84. Zachary Winzurk, Bachelor student, September 2019 – May 2020 (**graduated** in May, 2020)  
Topic: *Animal fine-grain recognition*
85. Momen Abdelkarim, Undergraduate student, August 2017 – May 2019  
Topic: *Undergraduate research: Image analytics and informatics*
86. Aakriti Gupta, Undergraduate student, 2015 – 2016  
Topic: *Colonoscopy quality assessment*
87. Fabio Rezende de Souza, Visiting undergraduate student, 2014–2015  
Topic: *Ground truth for colonoscopy*
88. Kamran K Bodushev, Undergraduate student, 2014 – 2015  
Topic: *Undergraduate research: Image analytics and informatics*
89. Shima Shiehzadegan, Undergraduate student, 2013 – 2014  
Topic: *Undergraduate research: Image analytics and informatics*

90. Ireen Khan, Undergraduate student, 2013 – 2015  
Topic: *Undergraduate research: Image analytics and informatics*
91. Saiswathi Javangula, Undergraduate student, 2013 – 2015  
Topic: *Undergraduate research: Image analytics and informatics*
92. Sarah Fallah-Adl, Undergraduate student, 2013 – 2015  
Topic: *Undergraduate research: Image analytics and informatics*
93. Sophia Kim, Undergraduate student, 2011 – 2013  
Topic: *Undergraduate research: Image analytics and informatics*
94. Sichun Ai, Undergraduate student, 2012  
Topic: *Undergraduate research: Image analytics and informatics*
95. Courtney Janowski, Undergraduate student, 2011  
Topic: *Undergraduate research: Image analytics and informatics*

**Students Under the ASU SCience and ENgineering Experience (SCENE)**

96. Ayan Bhatia, SCENE student, since September 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
97. Roberto Ruiz Felix, SCENE student, since September 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
98. Edie Gobel, SCENE student, since September 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
99. Shrey Parekh, SCENE student, since September 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
100. Andrew Yang, SCENE student, since September 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
101. Max Robison, SCENE student, January 2023 – May 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
102. Nicholas Hadi, SCENE student, November 2022 – May 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
103. Taariq Raushan Haroon Rasheed, SCENE student since November 2022 – May 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
104. Michelle Hein, SCENE student, November 2022 – May 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
105. Niyathi Kolli, SCENE student, November 2022 – May 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
106. Victoria Rosas, SCENE student, November 2022 – May 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
107. Mahita Vootukuru, SCENE student, November 2022 – May 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
108. Jaden Wu, SCENE student, November 2022 – May 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
109. Andrew Yang, SCENE student, November 2022 – May 2023  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*

**Committee member**

1. Matthew Trinh, Master's student, February, 2022 – May, 2022 (**graduated**, May, 2022)  
Thesis: *A Continuous Learning Approach to Alzheimer's Disease Progression Modeling and Domain Adaptation among Imaging Cohorts*
2. Tsz Chan, Master's student, April, 2021 – April 2023 (**graduated**, May, 2023)  
Topic: *KRAS Gene Classification*
3. Karolena Lein, Master's student, since March, 2021  
Topic: *Microparticle Simulation*
4. Jianfeng Wu, PhD student, April, 2020 – July 2022 (**graduated**, July, 2022)  
Topic: *Brain Imaging Genomics*
5. Omkar Muglikar, Master's student, February, 2020 – December, 2021 (**graduated**, December, 2021)  
Thesis: *Application of Deep Learning Techniques for EEG Signal Classification*
6. Riley Tallman, Master's student, February, 2020 – December, 2020 (**graduated**, December, 2020)  
Thesis: *irRotate - Automatic Screen Rotation Based on Face Orientation using Infrared*
7. Anshul Rai, Master's student, January, 2019– July, 2019 (**graduated**, July, 2019)  
Thesis: *Monocular Depth Estimation with Edge-Based Constraints and Active Learning*
8. Jie Zhang, PhD student, January, 2019 – March, 2020 (**graduated**, May, 2020)  
Dissertation: *Towards Building a General Artificial Intelligence for Data Scarcity* Topic: *Shape analysis, medical imaging, and deep learning*
9. Anant Srivastava, Master's student, 2016 – 2017 (**graduated**, May, 2017)  
Thesis: *3D-patch analysis based sparse coding system for Alzheimer's clinical group classification*  
Topic: *Image analysis and machine learning*
10. Shibani Singh, Master's student, 2016 – 2017 (**graduated**, May, 2017)  
Thesis: *Deep Learning based Classification of Brain Morphometry Data of Premature Newborns*  
Topic: *Image analysis and machine learning*
11. Saiswathi Javangula, Undergraduate student, 2015 – 2017 (**graduated**, May, 2017)  
Thesis: *Multiplexed single cell in situ RNA data analysis*  
Topic: *Imaging informatics and bioinformatics*
12. Aakriti Gupta, Undergraduate student, 2015 – 2016 (**graduated**, Dec, 2016)  
Thesis: *Applying fluorescence microscopy for highly multiplexed single cell in situ protein analysis*  
Topic: *Imaging informatics and bioinformatics*
13. Sheng-Hung Hu, Master's student, 2014 – 2016 (**graduated** in December, 2016)  
Thesis: *Video2Vec: Learning semantic spatio-temporal embedding for video representations*  
Topic: *Video analysis*
14. Jaya Gattupalli, Master's student, 2014 – 2016 (**graduated** in August 2016)  
Thesis: *A Computational Approach to Relative Aesthetics*  
Topic: *machine learning and pattern recognition*
15. Bolun Li, Master's student, 2013 – 2015 (**graduated** in May 2015)  
Topic: *Biomedical image analysis*
16. Robert Trevino, PhD student, 2013 – 2015  
Topic: *Cellular image analysis*
17. Nate Sutton, Master's student, 2010 – 2013 (**graduated** in May 2013)  
Topic: *Natural language processing*
18. Ashutosh Singh, Master's student, 2009 – 2012 (**graduated** in August 2012)  
Topic: *Bioinformatics*
19. Alexander Dragotoni, Master's student, 2009 – 2011 (**graduated** in May 2011)  
Topic: *Cognitive informatics and decision making*
20. William Wilkinson, Master's student, 2009 – 2010 (**graduated** in May 2010)

Topic: *Cognitive informatics and decision making*

### Program Advisor

1. Jakob Wells, Master's student, 2016–2018  
Topic: *Imaging Informatics*
2. Justin Patel, Master's student, 2016–2017  
Topic: *Imaging Informatics*
3. Noelle Snyder, Master's student, 2013–2015 (**graduated** in May, 2015))  
Topic: *Imaging Informatics*
4. Patricia Davis, Master's student, 2014–2016  
Topic: *Clinical Informatics*
5. Karthigayini Sivaprakasam, PhD student, 2013–2015  
Topic: *Bioinformatics*
6. Abhinav Bhargava, Master's student, 2010–2013 (**graduated** in May, 2013)  
Topic: *Bioinformatics, signal processing and analysis*
7. Gazi Islam, PhD student, 2009–2013 (**graduated** in September, 2013))  
Topic: *Surgeons hand movement analysis with video*
8. Nishal Ansari, PhD student, since 2012  
Topic: *Bioinformatics*
9. Xiaoxiao Wang, Master's student, 2009–2011 (**graduated** in May, 2011)  
Topic: *Clinical informatics*
10. Laura Whitfield, PhD student, since 2009  
Topic: *Clinical informatics*

### Advisor for Independent Studies, Research, and Thesis/Dissertation

1. Rishit Ratna, Master's Student, Spring 2024  
Topic: *Deep Learning and Medical Imaging*
2. Himansh Mudigonda, Master's Student, Spring 2024  
Topic: *DeepLearning and Medical Imaging*
3. Shikhhhar Siingh, Master's Student, Spring 2024  
Topic: *Deep Learning and Medical Imaging*
4. Jiaxuan Pang, PhD student, Spring 2024  
Topic: *Self-supervised Learning and Medical Imaging*
5. Fatemeh Haghighi, PhD student, Spring 2024  
Topic: *Self-supervised Learning and Medical Imaging*
6. Dongao Ma, PhD student, Spring 2024  
Topic: *Self-supervised Learning and Medical Imaging*
7. Mohammad Reza Hosseinzadeh Taher, PhD student, Spring 2024  
Topic: *Self-supervised Learning and Medical Imaging*
8. Nahid Ul Islam, PhD student, Spring 2024  
Topic: *Self-supervised Learning and Medical Imaging*
9. Madhumitha Saravanan, Master's Student, Spring 2024  
Topic: *Deep Learning and Medical Imaging*
10. Shivasakthi Senthil Velan, Master's Student, Spring 2024  
Topic: *Deep Learning and Medical Imaging*
11. Anirudh Iyengar Kaniyar Narayana Iyengar, Master's Student, Spring 2024



- Topic: *Deep Learning and Medical Imaging*
12. Jiaxuan Pang, PhD student, Fall 2023  
Topic: *Self-supervised Learning and Medical Imaging*
13. Fatemeh Haghighi, PhD student, Fall 2023  
Topic: *Self-supervised Learning and Medical Imaging*
14. Dongao Ma, PhD student, Fall 2023  
Topic: *Self-supervised Learning and Medical Imaging*
15. Mohammad Reza Hosseinzadeh Taher, PhD student, Fall 2023  
Topic: *Self-supervised Learning and Medical Imaging*
16. Nahid Ul Islam, PhD student, Fall 2023  
Topic: *Self-supervised Learning and Medical Imaging*
17. Zowei Guo, PhD student, Fall 2023  
Topic: *Self-supervised Learning and Medical Imaging*
18. Madhumitha Saravanan, Master's Student, Fall 2023  
Topic: *Deep Learning and Medical Imaging*
19. Shivasakthi Senthil Velan, Master's Student, Fall 2023  
Topic: *Deep Learning and Medical Imaging*
20. Anirudh Iyengar Kaniyar Narayana Iyengar, Master's Student, Fall 2023  
Topic: *Deep Learning and Medical Imaging*
21. Jiaxuan Pang, PhD student, Spring 2023  
Topic: *Self-supervised Learning and Medical Imaging*
22. Fatemeh Haghighi, PhD student, Spring 2023  
Topic: *Self-supervised Learning and Medical Imaging*
23. Dongao Ma, PhD student, Spring 2023  
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24. Mohammad Reza Hosseinzadeh Taher, PhD student, Spring 2023  
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25. Nahid Ul Islam, PhD student, Spring 2023  
Topic: *Self-supervised Learning and Medical Imaging*
26. Zowei Guo, PhD student, Spring 2023  
Topic: *Self-supervised Learning and Medical Imaging*
27. Madhumitha Saravanan, Master's Student, Spring 2023  
Topic: *Deep Learning and Medical Imaging*
28. Shivasakthi Senthil Velan, Master's Student, Spring 2023  
Topic: *Deep Learning and Medical Imaging*
29. Jiaxuan Pang, PhD student, Fall 2022  
Topic: *Self-supervised Learning and Medical Imaging*
30. Fatemeh Haghighi, PhD student, Fall 2022  
Topic: *Self-supervised Learning and Medical Imaging*
31. Dongao Ma, PhD student, Fall 2022  
Topic: *Self-supervised Learning and Medical Imaging*
32. Mohammad Reza Hosseinzadeh Taher, PhD student, Fall 2022  
Topic: *Self-supervised Learning and Medical Imaging*
33. Nahid Ul Islam, PhD student, Fall 2022  
Topic: *Self-supervised Learning and Medical Imaging*
34. Zowei Guo, PhD student, Fall 2022

- Topic: *Self-supervised Learning and Medical Imaging*
35. Nicholas Hadi, SCENE student, Fall 2022  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
36. Taariq Raushan Haroon Rasheed, SCENE student, Fall 2022  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
37. Michelle Hein, SCENE student, Fall 2022  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
38. Niyathi Kolli, SCENE student, Fall 2022  
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39. Victoria Rosas, SCENE student, Fall 2022  
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40. Mahita Vootukuru, SCENE student, Fall 2022  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
41. Jaden Wu, SCENE student, Fall 2022  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
42. Andrew Yang, SCENE student, Fall 2022  
Topic: *Biomedical imaging, deep learning, and computer-aided diagnosis*
43. Jiaxuan Pang, PhD student, Spring 2022  
Topic: *Self-supervised Learning and Medical Imaging*
44. Fatemeh Haghighi, PhD student, Spring 2022  
Topic: *Self-supervised Learning and Medical Imaging*
45. Dongao Ma, PhD student, Spring 2022  
Topic: *Self-supervised Learning and Medical Imaging*
46. Mohammad Reza Hosseinzadeh Taher, PhD student, Spring 2022  
Topic: *Self-supervised Learning and Medical Imaging*
47. Nahid Ul Islam, PhD student, Spring 2022  
Topic: *Self-supervised Learning and Medical Imaging*
48. Zowei Guo, PhD student, Spring 2022  
Topic: *Self-supervised Learning and Medical Imaging*
49. Utkarsh Nath, PhD student, Spring 2022  
Topic: *Computer-aided Diagnosis in Medical Imaging*
50. Manas Chetan Valia, Master's student, Spring 2022  
Topic: *Computer-aided Diagnosis in Medical Imaging*
51. Guru Prasad Kempegowdanahalli Somashekar, Master's student, Spring 2022  
Topic: *Computer-aided Diagnosis in Medical Imaging*
52. Jiaxuan Pang, PhD student, Fall 2021  
Topic: *Self-supervised Learning and Medical Imaging*
53. Fatemeh Haghighi, PhD student, Fall 2021  
Topic: *Self-supervised Learning and Medical Imaging*
54. Dongao Ma, PhD student, Fall 2021  
Topic: *Self-supervised Learning and Medical Imaging*
55. Mohammad Reza Hosseinzadeh Taher, PhD student, Fall 2021  
Topic: *Self-supervised Learning and Medical Imaging*
56. Nahid Ul Islam, PhD student, Fall 2021  
Topic: *Self-supervised Learning and Medical Imaging*
57. Zowei Guo, PhD student, Fall 2021

*Topic: Self-supervised Learning and Medical Imaging*

58. Daniella Asare, Master's student, Spring 2020  
Topic: *Deep Learning*
59. Nahid Ul Islam, PhD student, Spring 2020  
Topic: *Computer-aided Diagnosis in Medical Imaging*
60. Dongao Ma, PhD student, Spring 2020  
Topic: *Computer-aided Diagnosis in Medical Imaging*
61. Zongwei Zhou, PhD student, Spring 2020  
Topic: *Computer-aided Diagnosis in Medical Imaging*
62. Fatemeh Haghighi, PhD student, Spring 2020  
Topic: *Computer-aided Diagnosis in Medical Imaging*
63. Jiaxuan Pang, PhD student, Spring 2020  
Topic: *Computer-aided Diagnosis in Medical Imaging*
64. Shivam Bajpai, PhD student, Spring 2020  
Topic: *Computer-aided Diagnosis in Medical Imaging*
65. Diksha Goyal, PhD student, Spring 2020  
Topic: *Computer-aided Diagnosis in Medical Imaging*
66. Mohammad Reza Hosseinzadeh Taher, PhD student, Spring 2020  
Topic: *Computer-aided Diagnosis in Medical Imaging*
67. Pengfei Zhang, PhD student, Spring 2020  
Topic: *Computer-aided Diagnosis in Medical Imaging*
68. DongAo Ma, PhD student, Fall 2020  
Topic: *Deep Learning*
69. Mohammad Reza Hosseinzadeh Taher, PhD student, Fall 2020  
Topic: *Self-supervised Learning*
70. Fatemeh Haghighi, PhD student, Spring 2020  
Topic: *Self-supervised Learning*
71. Nahid Islam, PhD student, Fall 2020  
Topic: *Deep Learning*
72. Zuwei Guo, PhD student, Fall 2020  
Topic: *Deep Learning*
73. Jiaxuan Pang, PhD student, Fall 2020  
Topic: *Biomedical imaging*
74. Pengfei Zhang, PhD student, Fall 2020  
Topic: *Self-supervised Deep learning*
75. Mohammad Reza Hosseinzadeh Taher, PhD student, Spring 2020  
Topic: *Representation Learning in biomedical image segmentation*
76. Fatemeh Haghighi, PhD student, Spring 2020  
Topic: *Representation Learning*
77. Md Mahfuzur Rahman Siddiquee, PhD student, Spring 2020  
Topic: *Generative adversarial networks*
78. Vatsal Sodha, Master's student, Spring 2020  
Topic: *Self-supervised Deep learning*
79. Zuwei Guo, PhD student, Fall 2019  
Topic: *Biomedical imaging*
80. Jiaxuan Pang, PhD student, Fall 2019

Topic: *Self-supervised learning in biomedical imaging*

81. Pengfei Zhang, PhD student, Fall 2019

Topic: *Biomedical image analysis*

82. Mohammad Reza Hosseinzadeh Taher, PhD student, Spring 2019

Topic: *Deep learning in biomedical image segmentation*

83. Fatemeh Haghighi, PhD student, Spring 2019

Topic: *Deep learning in biomedical image segmentation*

84. Md Mahfuzur Rahman Siddiquee, PhD student, Spring 2019

Topic: *Generative adversarial networks*

85. Vatsal Sodha, Master's student, Spring 2019

Topic: *Deep learning for chest X-ray*

Also supervised the following interns who worked in the Siemens CAD group:

1. Linda Shi (The University of Iowa, 2004)
2. Zhiyun Xue (National Library of Medicine, NIH, 2005)
3. Sven Friedl (The University of Erlangen-Nuremberg, Germany, 2005)
4. Xiaotao Zou (University of California, Riverside, 2006)
5. Indriyati Atmosukarto (University of Washington, 2006)
6. Bernard Ghanem (University of Illinois at Urbana-Champaign, 2007)
7. Emil Madi (Villanova University, 2007)
8. Saketh Bhamidipati (Harvard University, 2007)
9. Hassan Rivaz (Johns Hopkins University, 2008)

## INVITED TALKS

- Mayo Clinic, Rochester, MN 2020 (a series of six talks with my students for six weeks)
- Shenzheng University, Shenzheng, China 2019
- University of Montreal, Montreal, QC, Canada 2018
- The University of Arizona, Tucson, AZ, USA 2016
- Peking University, Beijing, China, 2014
- University at Buffalo, SUNY, NY, USA, 2014
- Mayo Clinic, Rochester, Minnesota, USA, 2014
- Siemens Corporate Research, Inc., Princeton, NJ, USA, 2013
- Mayo Clinic, Rochester, Minnesota, USA, 2012
- Siemens Medical Solutions USA, Inc., Malvern, PA, USA, 2011
- The University of Arizona, Tucson, AZ, USA 2010
- Stanford University Medical School, Stanford, CA, USA, 2008
- Microsoft Research Cambridge, Cambridge, UK, 2008
- Arizona State University, Phoenix, AZ, USA, 2008
- New York University Medical School, New York, NY, USA, 2004
- Siemens Corporate Research, Inc., Princeton, NJ, USA, 2002
- GE Global Research, Niskayuna, New York, USA, 2002
- Imaging Research Laboratories, The J. P. Robarts Research Institute, London, Canada, 2001

## SERVICE ON JOURNALS

- Associate Editor for *Medical Image Analysis* (Impact Factor: 11.148; the best journal in medical image analysis), since 2021
- Guest Editor for *Frontiers in Computer Science* Special Issue on Segmentation and classification: theories, algorithms and applications 2021-2024
- Guest Editor/Associate Editor for the *IEEE Transactions on Medical Imaging* Special Issue on Annotation-Efficient Deep Learning for Medical Imaging (Impact Factor: 10.048 ; the best journal in image imaging), 2020-2021
- Associate Editor in the *Medical Physics and Imaging* section for *Frontiers in Physics* and *Frontiers in Physiology* (the two *Frontiers* journals covering imaging), since 2022
- Editor Board Member of *Bioengineering* (a top journal in biomedical engineering), since 2022
- Guest Editor of a *Journal of Imaging* Special Issue on Imaging Informatics: Computer-aided Diagnosis (a top journal in biomedical imaging), since 2022

## SERVICE ON CONFERENCE PROGRAM COMMITTEES

- Area Chair, *the International Conference on Medical Imaging with Deep Learning (MIDL 2023)*, July 10-12, 2023, Nashville, Tennessee (the recently established conference in my research area)
- Area Chair, *Medical Image Computing and Computer Assisted Interventions (MICCAI 2023)*, October 8 – 12 2023 Vancouver, Canada (the top conference in my research field)
- General Chair of Workshop/Tutorial/Challenge, *Medical Image Computing and Computer Assisted Interventions (MICCAI 2022)*, September 18 – 22 2022, Singapore (the top conference in my research field)
- Area Chair, *Medical Image Computing and Computer Assisted Interventions (MICCAI 2022)*, September 18 – 22 2022, Singapore (the top conference in my research field)
- Area Chair, *the International Conference on Medical Imaging with Deep Learning (MIDL 2022)*, July 6 – 8, 2022, Zurich, Switzerland (the recently established conference in my research area)
- Program Committee Member, *MICCAI Workshop on Domain Adaptation and Representation Transfer (DART 2021)*, Strasbourg, France (the top workshop in my research field)
- Program Committee Member, *MICCAI Workshop on Domain Adaptation and Representation Transfer (DART 2020)*, Lima, Peru (the top workshop in my research field)
- Oral Session Chair for *the 23rd International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI-2020)*, Lima, Peru (the top conference in my research field)
- Program Area Chair for *the 23rd International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI-2020)*, Lima, Peru (the top conference in my research field)
- Program Committee Member, *MICCAI Workshop on Domain Adaptation and Representation Transfer (DART 2019)*. October 13, 2019. Shenzheng, China
- Program Committee Member, *The 4th workshop on Deep Learning in Medical Image Analysis (DLMIA 2018)*. September 16–20 2018, Granada, Spain.
- Program Committee Member, *The 3th workshop on Deep Learning in Medical Image Analysis (DLMIA 2017)*. September 10–14, 2017, Quebec City, Quebec, Canada.
- Program Committee Member, *The Tenth International Workshop on High Performance Computing for Biomedical Image Analysis (HPC-MICCAI)*, October 17–21, 2016, Athens, Greece.
- Program Committee Member, *The 2nd workshop on Deep Learning in Medical Image Analysis (DLMIA 2016)*. October 17–21, 2016, Athens, Greece.
- Program Committee Member, *The first workshop on Deep Learning in Medical Image Analysis (DLMIA 2015)*. October 5-9, 2015, Munich, Germany
- Program Committee Member, *The Ninth International Workshop on High Performance Computing for Biomedical Image Analysis (HPC-MICCAI)*, October 5-9, 2015, Munich, Germany

- Organizer, *Endoscopic Vision Challenge: Automatic Polyp Detection in Colonoscopy Videos (EndoVis Polyp 2015)*, Medical Image Computing and Computer Assisted Intervention, October 9, 2015, Munich, Germany
- Program Committee Member, *The 6th International Workshop on Machine Learning in Medical Imaging (MLMI 2015)*, October 5, 2015, Munich, Germany
- Program Committee Member, *The Eighth International Workshop on High Performance Computing for Biomedical Image Analysis (HPC-MICCAI)*, October 5, 2015, Munich, Germany
- Program Committee Member, *The 8th International Conference on Image and Graphics (ICIG 2015)*, August 13-16, 2015, Tianjin, China.
- Organizer, *The Automatic Polyp Detection Challenge in Colonoscopy Videos (Polyp 2015)*, The 2015 IEEE International Symposium on Biomedical Imaging, April 16-19, 2015, New York, New York, USA
- Program Committee Member, *The 5th International Workshop on Machine Learning in Medical Imaging (MLMI 2014)*, September 14, 2013, Boston, MA, USA
- Program Committee Member, *The Seventh International Workshop on High Performance Computing for Biomedical Image Analysis (HPC-MICCAI)*, September 14, 2014, Boston, MA, USA
- Program Committee Member, *The 4th International Workshop on Machine Learning in Medical Imaging (MLMI 2013)*, September 26, 2013, Nagoya, Japan
- Program Committee Member, *The Sixth International Workshop on High Performance Computing for Biomedical Image Analysis (HPC-MICCAI)*, September 22, 2013, Nagoya, Japan
- Program Committee Member, *The 3rd International Workshop on Machine Learning in Medical Imaging (MLMI 2012)*, October 1, 2012, Nice, France
- Program Committee Member, *The First Workshop on Medical Computer Vision at CVPR 2012 (CVPRMCV)*, June 21 2012, Providence, RI, USA
- Program Committee Member, *The 3rd International Conference on Biomedical Engineering and Informatics (BMEI 2010)*, 16-18 October 2010, Yantai, China
- Local Organizer, *The 5th International Symposium on Biomedical Simulation (ISBMS10)*, January 23–24, 2010, Phoenix, Arizona, USA
- Program Committee Member, *The Nineteenth Annual Workshop on Information Technologies and Systems (WITS'09)*, 14-15 December 2009, Phoenix, Arizona, USA
- Program Committee Member, *The Second International Conference on Computer Vision Theory and Applications (VISAPP)*, March 2007, Barcelona, Spain
- Program Committee Member, *The First International Conference on Computer Vision Theory and Applications (VISAPP)*, February 2006, Setal, Portugal

## SERVICE ON JOURNAL EDITORIAL BOARDS

- Medical Image Analysis (MedIA) (a top journal in my field with Impact Factor: 11.148)
- IEEE Transactions on Medical Imaging (IEEE TMI) (Guest editor; a top journal in my field with Impact Factor: 10.048)

## REFEREEING

### Funding Agencies

- [The Natural Sciences and Engineering Research Council of Canada \(NSERC\), 2023](#)
- [The Natural Sciences and Engineering Research Council of Canada \(NSERC\), 2022](#)
- [The Natural Sciences and Engineering Research Council of Canada \(NSERC\), 2021](#)
- [The Natural Sciences and Engineering Research Council of Canada \(NSERC\), 2020](#)



- The Natural Sciences and Engineering Research Council of Canada (NSERC), 2019
- Collaborative Faculty Research Investment Program (CFRIP) Grant Review, Baylor University, Baylor Scott & White Health, and the Baylor College of Medicine, 2016
- Biomedical and Health Informatics Grant Review, The Institute for Clinical and Translational Science (ICTS) at the University of California, Irvine, 2016
- NIH Review Panel: Surgical Sciences, Biomedical Imaging, and Bioengineering, 2012-2015
- Mitacs (a national organization supports research and training programs in Canada), 2013, 2014, 2015
- The Division for Physical Sciences, the Netherlands Organisation for Scientific Research (NWO), 2011

## Journals and Conferences

- IEEE Transactions on Medical Imaging
- Medical Image Analysis
- IEEE Journal of Biomedical and Health Informatics
- IEEE Transactions on Biomedical Engineering
- IEEE Access
- Artificial Intelligence In Medicine
- Signal Processing: Image Communication
- MICCAI (International Conference on Medical Image Computing and Computer Assisted Intervention)
- CVPR (Annual Conference on Computer Vision and Pattern Recognition)
- ICCV (International Conference on Computer Vision)
- ECCV (European Conference on Computer Vision)
- BMVC (British Machine Vision Conference)
- AAAI Conference on Artificial Intelligence
- MIDL (the International Conference on Medical Imaging with Deep Learning)
- ICLR (the International Conference on Learning Representations)
- WACV (IEEE Workshop on Applications of Computer Vision)
- Journal of Biomedical Informatics
- International Journal of Medical Informatics
- BMC Bioinformatics
- Computer Vision and Image Understanding
- Medical Physics
- Computerized Medical Imaging and Graphics
- International Journal of Computer Vision
- IEEE Transactions on Pattern Analysis and Machine Intelligence
- Image and Vision Computing
- Journal of Electronic Imaging
- Brain Structure and Function
- Methods of Information in Medicine
- International Journal of Computers and Applications
- Ultrasound in Medicine and Biology
- Cancer
- Journal of Biological Systems
- ISBI (International Symposium on Biomedical Imaging)
- MIRA (International Workshop on Medical Imaging and Augmented Reality)

- MLMI (International Workshop on Machine Learning in Medical Imaging)
- MCV (Workshop on Medical Computer Vision)
- International Journal of Functional Informatics and Personalized Medicine (A Special Issue on Imaging Informatics for Personalized Medicine, 2009)
- VISAPP (International Conference on Computer Vision Theory and Applications) (2006, 2007)

## TEACHING AT ASU

- Image Analytics and Informatics (BMI 591 19791), Spring 2024
- Image Analytics and Informatics (CSE 591 19879), Spring 2024
- Image Analytics and Informatics (BME 598 20887), Spring 2024
- Topic: Imaging in Diagnostics (BMI 598 96882), Fall 2023
- Topic: Imaging in Diagnostics (BMI 598 96883), Fall 2023
- Introduction to Image Processing (BMI 507 81280), Fall 2023
- Introduction to Image Processing (BME 507 83535), Fall 2023
- Introduction to Image Processing (CSE 507 97386), Fall 2023
- Introduction to Image Processing (CEN 507 97385), Fall 2023
- Image Analytics and Informatics (BMI 591 20982), Spring 2023
- Image Analytics and Informatics (CSE 591 21078), Spring 2023
- Image Analytics and Informatics (BME 598 22377), Spring 2023
- Topic: Imaging in Diagnostics (BMI 598 18144), Spring 2023
- Topic: Imaging in Diagnostics (BMI 598 19003), Spring 2023
- Introduction to Image Processing (BMI 507 82791), Fall 2022
- Introduction to Image Processing (BME 507 85640), Fall 2022
- Introduction to Image Processing (CSE 591 98193), Fall 2022
- Image Analytics and Informatics (BMI 591 22526), Spring 2022
- Image Analytics and Informatics (CSE 591 22638), Spring 2022
- Image Analytics and Informatics (BME 598 24345), Spring 2022
- Topic: Imaging in Diagnostics (BMI 598 19063), Spring 2022
- Topic: Imaging in Diagnostics (BMI 598 20094), Spring 2022
- Introduction to Image Processing (BMI 507 84762), Fall 2021
- Introduction to Image Processing (BME 507 88575), Fall 2021
- Image Analytics and Informatics (BMI 591 24460), Spring 2021
- Image Analytics and Informatics (CSE 591 24612), Spring 2021
- Image Analytics and Informatics (MBE 598 27193), Spring 2021
- Topic: Imaging in Diagnostics (BMI 598 21321), Spring 2021
- Topic: Imaging in Diagnostics (BMI 598 20105), Spring 2021
- Introduction to Image Processing (BMI 507 88054), Fall 2020
- Introduction to Image Processing (BME 507 94182), Fall 2020
- Image Analytics and Informatics (BMI 591 27674), Spring 2020
- Image Analytics and Informatics (CSE 591 27953), Spring 2020
- Image Analytics and Informatics (MBE 598 31834), Spring 2020
- Topic: Imaging in Diagnostics (BMI 598 21367), Spring 2020
- Topic: Imaging in Diagnostics (BMI 598 22909), Spring 2020

- Introduction to Image Processing (BMI 507 92215), Fall 2019
- Introduction to Image Processing (CSE 591 94240), Fall 2019
- Topic: Imaging in Diagnostics (BMI 598 25510), Spring 2019
- Topic: Imaging in Diagnostics (BMI 598 23168), Spring 2019
- Image Analytics and Informatics (BMI 591 32594), Spring 2019
- Introduction to Image Processing (BMI 507 32593), Spring 2019
- Image Analytics and Informatics (CSE 591 32919), Spring 2019
- Introduction to Image Processing (CSE 591 32918), Spring 2019

[Note: Relieved from teaching for research in Fall 2018]

[Note: On Sabbatical, Fall 2017 and Spring 2018]

- Image Analytics and Informatics (BMI 591 14460), Spring 2017
- Image Analytics and Informatics (CSE 591 25903), Spring 2017
- Topic: Imaging in Diagnostics (BMI 598 31122), Spring 2017
- Topic: Imaging in Diagnostics (BMI 598 31059), Spring 2017
- Reading and Conference (BMI 790 21436), Spring 2017
- Introduction to Image Processing (BMI 507 76475), Fall 2016
- Introduction to Image Processing (CSE 591 85857), Fall 2016
- Image Analytics and Informatics (BMI 591 15024), Spring 2016
- Image Analytics and Informatics (CSE 591 31186), Spring 2016
- Introduction to Public Health and Imaging Informatics (BMI 102 86698), Fall 2015
- Introduction to Image Processing (BMI 507 77156), Fall 2015
- Introduction to Image Processing (CSE 591 91754), Fall 2015
- Image Analytics and Informatics (BMI 591 15560), Spring 2015
- Image Analytics and Informatics (CSE 591 16826), Spring 2015
- Introduction to Image Processing (BMI 507 78750), Fall 2014
- Introduction to Image Processing (CSE 591 83226), Fall 2014
- Image Analytics and Informatics (BMI 591 16944), Spring 2014
- Image Analytics and Informatics (CSE 591 18893), Spring 2014
- Introduction to Image Processing (BMI 507 81230), Fall 2013
- Introduction to Image Processing (CSE 591 82590), Fall 2013
- Image Analytics and Informatics (BMI 591 18522), Spring 2013
- Image Analytics and Informatics (CSE 591 27712), Spring 2013
- Introduction to Image Processing (BMI 507 85960), Fall 2012
- Introduction to Image Processing (CSE 591 87162), Fall 2012
- Introduction to Biomedical Informatics (BMI 501 77563), Fall 2012
- Advanced Algorithms in Medical Imaging (BMI 591 22045), Spring 2012
- Introduction to Biomedical Informatics (BMI 501 79276), Fall 2011
- Biomedical Imaging Informatics (BMI 591 23228), Spring 2011
- Introduction to Digital Image Processing (BMI 591 83435), Fall 2010
- Introduction to Biomedical Informatics (BMI 501 83431), Fall 2010
- BMI Symposium (BMI 570) Spring 2010
- Introduction to Digital Image Processing (BMI 591 89276), Fall 2009

- BMI Symposium (BMI 570) Fall 2009
- Informatics in Biomedical Imaging (BMI 591 27114), Spring 2009
- Guest lecture for BMI 501 (Fall, 2009; Fall, 2010; Fall, 2013)
- Guest lectures for BMI 502 (Fall, 2009)
- Guest lecture for BME 591 (Fall 2009; Fall 2010)

### **TEACHING AT UA College of Medicine**

- Informatics in Biomedical Imaging, part of Neurological Sciences Block, Fall, 2010
- Informatics in Biomedical Imaging, part of Neurological Sciences Block, Fall, 2009
- Informatics in Biomedical Imaging, part of Neurological Sciences Block, Spring, 2009

### **INTERNAL SERVICE ROLES**

- Research Faculty Search Committee (Committee Chair), 2023–2024
- College Ad Hoc Annual Review: Tenure/Tenure Track, 2023–2024
- College Faculty Awards Committee, 2023–2024
- College Scholarly Activity Funds, 2021–2024
- College Research Council, 2023–2024
- BMI Academic Program Committee, 2023–2024
- University Intellectual Property and Institutional Review Committee, 2023–2024
- College Personnel Committee, 2022–2023
- College Ad Hoc Annual Review: Tenure/Tenure Track, 2022–2023
- College Faculty Awards Committee, 2022–2023
- College Scholarly Activity Funds, 2021–2024
- College Research Council, 2022–2023
- BMI Academic Program Committee, 2022–2023
- University Intellectual Property and Institutional Review Committee, 2022–2023
- Ad Hoc Annual Review: Tenure/Tenure Track, 2021–2022
- BMI Academic Program Committee, 2021–2022
- BMI Associate/Full Professor Search Committee, 2021–2022
- College Faculty Awards Committee, 2021–2022 (Committee Chair)
- College Scholarly Activity Funds, 2021–2024
- Ad Hoc Annual Review: Tenure/Tenure Track, 2020–2021
- BMD Lecturer Search Committee, 2020–2021
- BMI Academic Program Committee, 2020–2021
- BMI Associate/Full Professor Search Committee, 2020–2021
- BMI Space Committee, 2020–2021 (Committee Chair)
- College Faculty Award Committee, 2020–2021
- Peer Teaching Evaluation Committee, 2020–2021
- Transnational Teams Committee, 2020–2021
- Ad Hoc Annual Review: Tenure/Tenure Track, 2019–2020
- BMI Academic Program Committee, 2019–2020
- BMI Admission Committee, 2019–2020 (Committee Chair)
- College Faculty Award Committee, 2019–2020

- College Faculty Hiring Committee, 2019–2020 (Committee Chair)
- Transnational Teams Committee, 2019–2020
- Vice Dean Search Committee, 2019–2020
- Workload Distribution Committee, 2019–2020
- BMI Admission Committee, 2018–2019
- College Committee on Committees, 2018–2019
- College Faculty Award Committee, 2018–2019
- College Faculty Hiring Committee, 2018–2019 (Committee Chair)
- University Senate, 2018–2019
- University Senate - Personnel Committee, 2018–2019

[Note: On Sabbatical, Fall 2017 and Spring 2018]

- Faculty Recruitment Committee, 2016–2017
- CHS Committee on Committees, 2016–2017
- University Senate, 2013–2016
- Academic Program Committee, 2010–2016
- Faculty Recruitment Committee, 2010-2014 (Committee Chair, 2014)
- Student Admission Committee, 2009-2010
- Space Committee, 2010-2011
- Coordinator for the BMI Colloquium, 2009-2010