

Ruogu “Rena” Fang MS, Ph.D.

Associate Professor, Pruitt Family Endowed Faculty Fellow, Associate Director, Intelligence Critical Care Center

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EXECUTIVE SUMMARY:

Ruogu “Rena” Fang, M.S., Ph.D. is a tenured Associate Professor and Pruitt Family Endowed Faculty Fellow in the J. Crayton Pruitt Family Department of Biomedical Engineering at the University of Florida. She is the Director of the Smart Medical Informatics Learning and Evaluation (SMILE) Lab, Associate Director of the Intelligent Critical Care Center (IC³), and affiliated faculty of Electrical and Computer Engineering, Computer and Information Science and Engineering, Radiology, and Center for Cognitive Aging and Memory in McKnight Brain Institute.

Dr. Fang has established an internationally recognized research and educational program focused on Medical Artificial Intelligence (AI) for diagnosis and intervention of brain disorders, with a particular emphasis on neurodegenerative diseases. Her research themes are artificial intelligence (AI)-empowered precision brain health and brain/bio-inspired AI. Her transdisciplinary research impact has spanned from creating a new modularized machine learning system for early diagnosis of neurodegenerative diseases using novel imaging to individualized intervention using non-invasive brain stimulation to prevent dementia. Her lab has been continuously funded by NSF, NIH, AFRL, and industry since 2016. Dr. Fang serves as the Principal Investigator (PI) and Co-Investigator on 35 funded grants, among which she served as PI on 14 grants, with a total funding of \$51.4 M, and PI of \$6.1 M. She has ten issued patents. She was selected as the Rising Stars by the Academy of Science, Engineering, and Medicine of Florida (ASEMFL), the Inaugural recipient of the Robin Sidhu Memorial Young Scientist Award from the Society of Brain Mapping and Therapeutics and received the Best Paper Award from the IEEE International Conference on Image Processing, UF Inaugural Artificial Intelligence (AI) Course Award, University of Florida College of Engineering Faculty Award for Excellence in Innovation, Faculty Doctoral Mentoring Award, UF BME Faculty Research Excellence Award, among others. She has 150+ peer-reviewed publications, including highly respected journals of *Lancet*, *PNAS*, *npj*, *Medical Image Analysis*, *IEEE Transaction on Medical Imaging*, that are well cited (h-index = 24, I₁₀-index=48, 3700+ citations, Google Scholar) and frequently featured by international major media (e.g., *Forbes Magazine*, *The Washington Post*, *ABC*, *National Geography*, *The Hindu*, *EveSmart*, and *Eminetra*).

She is the Associate Director of the Intelligence Critical Care Center (IC³) aiming to transform healthcare via Medical AI (MAI) through multi-disciplinary collaboration. The IC³ Center is dedicated to achieving several core mission goals: (a) advancing research in AI-empowered diagnostics in a way that is ethical and equitable; (b) nurturing a new generation of diverse transdisciplinary MAI researchers through education and training; (c) establishing national and international standards for multicenter data generation initiatives and the sharing of publicly available datasets and MAI platforms; and (d) promoting entrepreneurship, industry partnerships, and advocacy initiatives in the field of MAI.

Dr. Fang is passionate about educating the next generation of transdisciplinary biomedical researchers from diverse backgrounds, especially underrepresented and marginal communities. She is the inaugural chair of the Public Engagement and Outreach Committee and was instrumental in translating the Shepard Broad Foundation Community Outreach Fund into society-benefiting actions. Dr. Fang contributes to building the next generation of leaders in medical AI by teaching computer applications in BME. She has introduced new, high-value educational pedagogies in her undergraduate and graduate classrooms during the pandemic which have led to *the best offering* of these classes in terms of student evaluation in the history of the BME department. She also created a new AI course series “Medical Artificial Intelligence (MAI)” and received the inaugural AI Course Award from UF. In her laboratory, she has mentored 3 Postdoc Associates, 13 doctoral and 20+ master graduate students, and over 60 undergraduates. She is the President of Women in MICCAI and a mentor of AnitaBorg.org and National Academy of Inventors Global Academy Inventors Networks (GAIN).

Dr. Fang has enthusiastically promoted the emerging field of Medical AI while faithfully serving the profession. Dr. Fang currently serves as the Associate Editor of *Medical Image Analysis*, serves as the inaugural Topic Editor of “Women in Brain Imaging and Brain Stimulation” in *Frontiers of Human Neuroscience*, and organized a special issue in *Computerized Medical Imaging and Graphics*. She chaired 10+ workshops, sessions, and tracks at international conferences. Dr. Fang has regularly served on NIH study sections and NSF panels (10+ years, 90+ grant proposals), and reviewed for 30+ journals (100+ manuscripts/books).

EDUCATION

- 2014 **Ph.D. in Electrical and Computer Engineering**, Computer Science Minor, Cornell University, Ithaca, NY
- 2009 **B.E. Information Engineering**, Rank 1st in Chu-Kochen Honors College, Zhejiang University, China
- 2009 **Visiting Researcher**, Chemical Engineering and Biotechnology, The University of Cambridge, Cambridge, UK
- 2008 **Exchange Student**, Electrical and Electronic Engineering, University of Hong Kong, Hong Kong

PROFESSIONAL EXPERIENCE

- 11/1/2024 – 2/28/2025 Stanford Science Visiting Professor, Stanford University
- 8/16/2022 – Present Associate Professor, Biomedical Engineering Department, University of Florida
Affiliated Faculty, Norman Fixel Institute for Neurological Diseases
Affiliated Faculty, Electrical and Computer Engineering Department
Affiliated Faculty, Computer Information & Science & Engineering Department
Affiliated Faculty Center for Cognitive Aging and Memory Clinical Translational Research (CAM)
Affiliated Faculty, University of Florida Genetics Institute (UFGI)
Affiliated Faculty, Emerging Pathogens Institute
Affiliated Faculty, UF Health Cancer Center
Affiliated Faculty, Radiology
- 01/01/2023 – Present Pruitt Family Endowed Faculty Fellow in Biomedical Engineering
- 10/2023 – Present President, Women in MICCAI (WiM), the Medical Image Computing and Computer Assisted Intervention (MICCAI)
- 03/01/2022 – Present Associate Director, Intelligent Critical Care Center (IC³), University of Florida
- 08/16/2017 – 08/15/2022 Assistant Professor, Biomedical Engineering Department, University of Florida
- 8/16/2014 – 8/15/2017 Assistant Professor, School of Computing and Information Sciences, Florida International University

HONORS AND DISTINCTIONS

External Faculty Awards

- Stanford Science Visiting Professorship, 2024-2025
- Senior Member, National Academy of Inventors (NAI), 2024
- Rising Stars (Engineering). the Academy of Science, Engineering, and Medicine of Florida (ASEMFL) Annual Meeting, 2023.
- Inaugural Class of the ACM Future of Computing Academy, Academy of Computing Machinery, 2017
- Ralph Lowe Junior Faculty Enhancement Award, Oak Ridge Associated Universities (1 of 35 awardees nationwide in the United States), 2016
- Robin Sidhu Memorial Young Scientist Award, Society of Brain Mapping and Therapeutics, 2016
- National Science Foundation CISE Research Initiation Initiative (CRII) Award, 2015
- Senior Member, Institute of Electrical and Electronics Engineers (IEEE), 2018

Internal Faculty Award

- Faculty Doctoral Mentoring Award, Herbert Wertheim College of Engineering, 2025
- Faculty Teaching Excellence Award, J. Crayton Pruitt Family Department of Biomedical Engineering, 2024
- Pioneering Research HiPerGator Award, University of Florida, 2024
- Inaugural AI Course Award, University of Florida, 2024
- Tenure and Promotion to Associate Professor, University of Florida, 2022.

- The University of Florida Herbert Wertheim College of Engineering 2022 Faculty Award for Excellence in Innovation, 2022.
- The University of Florida, J. Crayton Pruitt Family Department of Biomedical Engineering Faculty Research Excellence Award, 2021
- Great Teaching Certificate, University of Florida Center for Teaching Excellence, 2020
- Master Mentor Certificate, UF Training and Professional Development Program, Mentor Academy 2022

Best Paper Awards, Competition Awards, Reviewer Awards

- Best Paper Award, The 17th International Conference on Health Informatics (HEALTHINF/BIOSTEC), 2024
- Best Paper Presentation Award Runner-Up, Women in MICCAI, Sep. 2022 in conjunction with the International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI) 2022
- 1st Place at 2022 Georgia Tech GPU Hackathon
- 1st Place at the 2022 University of Florida GPU Hackathon
- UNIQUE-IVADO Award for Best Abstract (Undergraduate and Graduate Level) at Montreal AI& Neuroscience (MAIN) Conference, 2021
- David Goldstein M.D., Ph.D., Presidential Trainee Award, American Society for Clinical Pharmacology and Therapeutics Annual Meeting in Houston, TX, March 18-21, 2020. (For the highest-scoring abstract, Co-Author Paper)
- IEEE Transaction on Medical Imaging (TMI) Distinguished Reviewer Bronze Level, 2021
- Top-ranked (#1) in “Fovea Detection” System, First International Diabetic Retinopathy Grading and Segmentation Challenge, IEEE International Symposium of Biomedical Imaging, 2018
- Top-ranked (#1) in “Optical Disc Segmentation” System, First International Diabetic Retinopathy Grading and Segmentation Challenge, IEEE International Symposium of Biomedical Imaging, 2018
- Most Cited Paper since 2018, Medical Image Analysis, 2021
- Hottest Article in Medical Image Analysis, Elsevier Publisher, April - September 2014
- Best Paper Award, the 17th International Conference on Image Processing, First Author, 2010

Graduate School Awards

- Hsien Wu and Daisy Yen Wu Memorial Award (awarded to 5 outstanding graduate students at Cornell University), 2014
- Irwin and Joan Jacobs Fellowship, Cornell University, 2009
- Best Ph.D. Poster Award, Cornell Engineering Research Conference, 2010
- Student Travel Award, International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI), 2014
- Student Travel Award, the 17th International Conference on Image Processing, 2010
- IBM Cornell ECE Women Conference Travel Grant, the 15th International Conference on Medical Image Computing and Computer Assisted Intervention, 2012

Undergraduate School Awards

- Bao-Steel Scholarship, Zhejiang University, 2008 (Awarded at graduation to top one EE student)
- Li & Fung Scholarship, University of Hong Kong (full stipend and tuition for exchange students), 2007
- First Class Scholarship, Zhejiang University, 2006-2009
- Dean’s List (top 1%), Zhejiang University, 2006-2009

- First Prize in the National Olympiad in Mathematics, 2001

AWARDS RECEIVED BY STUDENT ADVISEES

1. Skylar Stolte, Association for Academic Women's (AAW) Emerging Scholar Award, Madelyn Lockhart Dissertation Awards Committee, University of Florida, 2025
2. Skylar Stolte, Graduate Student Excellence Award, J. Crayton Pruitt Family Department of Biomedical Engineering, 2024
3. Joseph Cox, Supervised Teaching Excellence Award, J. Crayton Pruitt Family Department of Biomedical Engineering, 2024
4. Chaoyue Sun, International Student Achievement Awards Certificate of Outstanding Merit, International Center, University of Florida, 2024
5. Seowung Leem, International Student Achievement Awards Certificate of Outstanding Merit, International Center, University of Florida, 2024
6. Seowung Leem, Pruitt Research Day Best Poster Presentation Award, 2024
7. Skylar Stolte, the Center for Cognitive Aging and Memory (CAM) Dissertation Award, \$2500, 2024
8. Gavin Hart, NIH R25-funded postbaccalaureate training program Gators Advancing Through Opportunities in Research for Aging and Alzheimer's Disease Education (GATORAADE) Fellow, 2024
9. Skylar Stolte, the Center for Cognitive Aging and Memory (CAM) Student Travel Award, \$1000, 2024
10. Skylar Stolte, NIH F31 Ruth L. Kirschstein Predoctoral Individual National Research Service Award, 2024
11. Seowung Leem: IEEE EMBC NextGen Scholar Award, IEEE Engineering in Medicine and Biology Society (EMBS), 2024
12. Joseph Cox: NIH NIAAA T32 Fellowship, 2024
13. Skylar Stolte: Winner of Gator Engineering Attribute Award for Creativity, Herbert Wertheim College of Engineering, University of Florida, 2024
14. Skylar Stolte: Winner of the Leighton E. Cluff Award for Aging Research, University of Florida, 2024 (\$1250).
15. Chaoyue Sun, Best Paper Award (1 among all submissions), The 17th International Conference on Health Informatics (HEALTHINF/BIOSTEC), Rome - Italy, published in Proceedings of the 17th International Joint Conference on Biomedical Engineering Systems and Technologies, 2024
16. Skylar E. Stolte: Second Place, WiM Inspirational Leadership Legacy (WILL), International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2023 (\$300).
17. Daniel Rodriguez: NIH T1D & BME T32 Fellowship, 2023
18. Grace Cheng & Akshay Ashok: UF AI Scholar, 2023
19. Skylar E. Stolte: Best Paper Presentation Award Runner Up, Women in MICCAI (WiM), International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2022.
20. Garrett Fullerton: NSF Graduate Research Fellowship Program (GRFP), 2022
21. Garrett Fullerton: Outstanding Research Award, BME Undergraduate Research Day, 2022
22. Peng Liu: Best Abstract Award (Undergraduate and Graduate Level), Montreal AI & Neuroscience (MAIN) Conference, 2021
23. Charlie Tran: NextProf Pathfinder, University of Michigan and University of California, San Diego, 2021
24. Gianna Sweeting: John & Mittie Collins Engineering Scholarship, 2021
25. Charlie Tran: Ronald E. McNair Graduate Assistantship, 2021
26. Yao Xiao: BMES Career Development Award, Biomedical Engineering Society (BMES), 2020

27. Yao Xiao: Graduate Student Speaker at the College of Engineering Commencement, 2020
28. Peng Liu: UFII Graduate Student Fellowship, University of Florida Informatics Institute, 2020
29. Gianna Sweeting: Herbert Wertheim College of Engineering Scholarship, University of Florida, 2020
30. Charlie Tran: Ronald E. McNair Post-Baccalaureate Achievement Program, 2020
31. Gianna Sweeting: Fernandez Family Scholar, College of Engineering, University of Florida, 2020
32. Gianna Sweeting: University Scholar Program, University of Florida, 2020
33. Skylar E. Stolte: Graduate School Preeminence Award (GSPA), University of Florida, 2019
34. Yao Xiao: National Institutes of Health, National Institute of Biomedical Imaging and Bioengineering (NIBIB), National Cancer Institute (NCI), and Graduate Student Council Travel Awards, IEEE International Symposium on Biomedical Imaging (ISBI), 2020
35. Garrett Fullerton: University Scholar Program, 2020
36. Maximillian Diaz: NSF Graduate Research Fellowship Program (GRFP), 2020
37. Daniel El Basha: NSF Graduate Research Fellowship Program (GRFP), 2020
38. Kyle B. See: Graduate School Preeminence Award (GSPA), University of Florida, 2019
39. Kyle B. See: NIH CTSI TL1 Pre-doctoral Fellowship, 2019
40. Maximillian Diaz, University Scholar Program, 2019
41. Yao Xiao: Richard Tapia Celebration of Diversity in Computing Conference Scholarship, Academy of Computing Machinery (ACM), 2018
42. Yao Xiao, ACM/CHASE Student Travel Award, Connected Health: Applications, Systems and Engineering Technologies (CHASE), 2017
43. Yao Xiao, Student Travel Award (award rate=6%), International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2017
44. Akash Mathavan, University Scholar Program, 2018
45. Akshay Mathavan, University Scholar Program, 2018
46. Micheal Adeyosoye, McKnight Bridge Fellowship, 2015

PUBLICATIONS

*The authors with * are my (co-)supervised students. Underline means I serve as the corresponding/senior author.*

BOOK CHAPTERS

- BC1. [Spring'24] Yanjun Li, Chaoyue Sun*, Daria Y. Romanova, Dapeng O. Wu, **Ruogu Fang**, Leonid L. Moroz. Chapter 17. Analysis and Visualization of Single-Cell Sequencing Data with Scanpy and MetaCell: A Tutorial, in Book Ctenophores, Methods and Protocols, Springer, 2024. ISBN: 978-1-0716-3641-1 <https://link.springer.com/book/9781071636411>
- BC2. [CRC'23] Yao Xiao*, Kai Huang, Hely Lin, **Ruogu Fang**: Medical Imaging Denoising, in Book Medical Image Synthesis, CRC Publisher, 2023 (invited). DOI: 10.1201/9781003243458-10
- BC3. [Springer'19] Yao Xiao*, Skylar Stolte*, Peng Liu*, Yun Liang*, Pina Sanelli, Ajay Gupta, Jana Ivanidze, **Ruogu Fang**: Deep Spatial-Temporal Convolutional Neural Networks for Medical Image Restoration, in Book Deep Learning and Convolutional Neural Networks for Medical Image Computing, Springer Publisher, 2019.
- BC4. [CRC'19] **Ruogu Fang**, Samira Pouyanfar, Yimin Yang, Yao Xiao*, Jianqiao Tian*, Shu-Ching Chen, S.S. Iyengar: Big Data in Computational Health Informatics, in Book Big Data in Multimodal Medical Imaging, CRC Publisher, 2019. (Invited)

Highlight: Total 52 refereed journal articles, including 29 corresponding author journal papers. 8 first author, 38 journal publications after joining UF. 2 Most Cited Journal Papers in MIA¹, 1 in the Lancet Digital Health (IF=36.6), 1 in JAMA Neurology, 1 in PNAS, 1 in npj Digital Medicine (IF=15.4), 1 in PNAS Nexus, 7 in MIA (IF=13.8), 1 in IEEE TMI (IF=11.0), 1 in IEEE TCBY (IF=11.448), 1 in ACM CSUR (IF=14.3), 4 in Nature Scientific Reports, 2 in PLOS Computational Biology.

- J1. [AIIM] Kyle See*, Garrett Fullerton, Simon Kato*, Ziqian Huang*, Dhanashree Rajderkar, John Rees, Pina Sanelli, and **Ruogu Fang**: Model MAGIC: Diagnostically Competitive Performance of a Physiology-Informed Generative Adversarial Network for Contrast-Free CT Perfusion, Artificial Intelligence in Medicine (under review)
- J2. [JAMA'24] David Vaillancourt, Angelos Barmountis, Samuel Wu, Jesse DeSimone, Marissa Schauder, Robin Chen, Todd Parrish, Wei-en Wang, Eric Molho, Alicia Leader, John Morgan, Áine Russell, David Simon, Hannah Babcock, Karen White-Tong, Burton Scott, Jun Hua, Liana Rosenthal, Stephen Gomperts, Anna Goodheart, Erin Peterec, Cynthia Poon, Max Galarce, Rizwan Akhtar, Tanya Thompson, David Grimes, Sol De Jesus, Autumn Collier, Candace Cromer, Natividad Stover, Ece Bayram, Natt Putra, Reilly Costello, Eda Yilmaz, Crystal Mercado, Tomas Mercado, Adolfo Ramirez-Zamora, Amanda Fessenden, Stefan Prokop, **Ruogu Fang**, Renee Wagner, John Slevin, C Spears, Prabesh Kanel, Nicolaas Bohnen, Jacqueline Caswell, Marina Bryants, Paul Tuite, Kristyn Kuzianik, Youshra Ahmed, Stephen Aradi, Antonio Strafella, Nathaniel Bendahan, Mustafa Siddiqui, Joy Njoku, Albert Davis, Amy Stiebel, Xuemei Huang, Jill Ostrem, Hengameh Zahed, Sarah Wang, Phuong Hoang, Joseph Seemiller, Guangwei Du, Hubert Fernandez, Irene Litvan, Robert Hauser, Alexander Pantelyat, Nikolaus McFarland, Tao Xie, Michael Okun: Prospective Multicenter Study of Automated Imaging Differentiation for Parkinsonism (AIDP), JAMA Neurology, 2024 (under review)
- J3. [BA'24] Chaoyue Sun*, Yanjun Li, Simone Marini, Alberto Riva, Dapeng Oliver Wu, **Ruogu Fang**, Marco Salemi, and Brittany Rife Magalis: Phylogenetic-informed graph deep learning to classify dynamic transmission clusters in infectious disease epidemics, in *Bioinformatics Advances* 4, no. 1, vbae158, 2024. <https://doi.org/10.1093/>
- J4. [PNAS'24] Vadim N. Gladyshev, ... **Ruogu Fang**, et al., Disagreement on foundational principles of biological aging, *Proceedings of the National Academy of Sciences (PNAS) Nexus*, 2024. <https://doi.org/10.1093/pnasnexus/pgae499>
- J5. [BM'24] Alejandro Albizu, Paulo Suen, Ziqian Huang*, Jori L. Waner, Skylar E. Stolte*, Aprinda Indahlastari, **Ruogu Fang**, Andre R. Brunoni, and Adam J. Woods: Artificial Intelligence-Optimized Non-Invasive Brain Stimulation and Treatment Response Prediction for Major Depression. *Bioelectronic Medicine*, 2024. <https://doi.org/10.1186/s42234-024-00157-2>
- J6. [MIA'24] Joseph Cox*, Peng Liu*, Skylar E. Stolte*, Yunchao Yang, Kang Liu*, Kyle B. See*, Huiwen Ju, **Ruogu Fang**: BrainSegFounder: Towards 3D Foundation Models for Neuroimage Segmentation, Medical Image Analysis, 2024. <https://doi.org/10.1016/j.media.2024.103301>
- J7. [BB'2024] Qiaosi Tang, Ranjala Ratnayake, Gustavo Seabra, Zhe Jiang, **Ruogu Fang**, Lina Cui, Yousong Ding, Tamer Kahveci, Jiang Bian, Chenglong Li, Hendrik Luesch, Yanjun Li: Morphological Profiling for Drug Discovery in the Era of Deep Learning, Briefings in Bioinformatics, accepted. (Impact factor=9.5)
- J8. [PLOS-CB'24] Chaoyue Sun*, **Ruogu Fang**, Marco Salemi, Brittany Rife Magalis, Mattia Prosperi: DeepDynaForecast: Phylogenetic-informed graph deep learning for epidemic transmission dynamic prediction. *PLOS Computational Biology*, 20(4), p.e1011351, 2024. <https://doi.org/10.1371/journal.pcbi.1011351>
- J9. [Nature SR'24] Nooshin Hosseini Yousefzadeh, Charlie Train*, **Ruogu Fang**, My Thai: LAVA: Granular Neuron-Level Explainable AI for Alzheimer's Disease Assessment from Fundus Images, *Nature Scientific Reports*, <https://doi.org/10.1038/s41598-024-58121-8>
- J10. [PLOS CB'24] Peng Liu*, Ke Bo, Mingzhou Ding, **Ruogu Fang**: Emergence of Emotion Selectivity in A Deep Neural Network Trained to Recognize Visual Objects. *PLOS Computational Biology*, 2024. <https://doi.org/10.1371/journal.pcbi.1011943>

¹ #1 Journal in Radiology, Nuclear Medicine and Imaging Category, #1 Journal in Computer Graphics and Computer-Aided Design Category, #1 Journal in Health Informatics Category, all by Thomson Reuters

- J11. [Nature SR'24] Charlie Tran*, Kai Shen*, Kang Liu*, Akshay Ashok*, Adolfo Ramirez-Zamora⁴ Jinghua Chen, Yulin Li, and **Ruogu Fang**: Explainable Deep Learning Predicts Prevalent and Incident Subjects of Parkinson's Disease from UK Biobank Fundus Imaging. *Nature Scientific Reports*, 2024. <https://doi.org/10.1038/s41598-024-54251-1>
- J12. [IN'24] Skylar E. Stolte*, Aprinda Indahlastari, Jason Chen*, Alejandro Albizu, Ayden Dunn, Samantha Pedersen, Kyle B. See*, Adam J. Woods, **Ruogu Fang**: Precise and Rapid Whole-Head Segmentation from Magnetic Resonance Images of Older Adults using Deep Learning, *Imaging Neuroscience*, 2024. https://doi.org/10.1162/imag_a_00090
- J13. [npj Digital Medicine'23] Cameron Celeste, Dion Ming, Justin Broce^U, Diandra P. Ojo, Emma Drobina, Adetola F. Louis-Jacques, Juan E. Gilbert, **Ruogu Fang**[†], Ivana K. Parker[†]. Disparity in Diagnosing Bacterial Vaginosis using Machine Learning. *npj Digital Medicine* 6:211, 2023, collection on Women's Health and Maternal Care. († co-corresponding authors) (**Featured by UF News, EurekAlert, and Newswise**) <https://doi.org/10.1038/s41746-023-00953-1>
- J14. [JVCIR'24] Tianqi Liu*, Hong Huang*, Zhijun Lei, Ruogu Fang, Dapeng Wu: Texture and motion aware perception in-loop filter for AV1, *Journal of Visual Communication and Image Representation*, vol. 98, 104025. <https://doi.org/10.1016/j.jvcir.2023.104025>
- J15. [BS'23] Alejandro Albizu, Aprinda Indahlastari, Ziqian Huang*, Jori Waner, Skylar E. Stolte*, **Ruogu Fang**[†], **Adam J. Woods**[†]: Machine-Learning Defined Precision tDCS for Improving Cognitive Function. *Brain Stimulation*, June 4, 2023. DOI: <https://doi.org/10.1016/j.brs.2023.05.020> PMID: 37279860 (†: co-corresponding authors)
- J16. [Frontiers'23] **Ruogu Fang**, Lijun Bai, Wen Li. Editorial: Frontiers of women in brain imaging and brain stimulation, *Frontiers in Human Neuroscience*, 17:1208253, 2023. <http://doi.org/10.3389/fnhum.2023.1208253>
- J17. [AA'22] **Adam J. Woods**, Gene Alexander, Ronald Cohen, Michael Marsiske, Steven T DeKosky, Georg A. Hishaw, Samuel S. Wu, Aprinda Indahlastari, Alejandro Albizu, **Ruogu Fang**: Augmenting cognitive training in older adults with transcranial direct current stimulation: Initial results from the Phase III ACT trial and new directions, *Alzheimer's Association*, December 2022.
- J18. [SI'22] Skylar Stolte*, Kyle Volle, Aprinda Indahlastari, Alejandro Albizu, Adam Woods, Kevin Brink, Matthew Hale, **Ruogu Fang**: DOMINO: Domain-aware Loss for Deep Learning Calibration, *Software Impacts*, p.100478, 2023. <https://doi.org/10.1016/j.simpa.2023.100478>
- J19. [NoA'22] Wei-en Wang, Rob Chen, Robin Perry Mayrand, Malek Adjouadi, **Ruogu Fang**, Steven T. DeKosky, Ranjan Duara, Stephen A. Coombes, David E. Vaillancourt*, for the Alzheimer's Disease Neuroimaging Initiative: Association of Longitudinal Cognitive Decline with Diffusion Changes in Gray Matter, and Amyloid and Tau Deposition, in *Neurobiology of Aging*, 121, pp.166-178, 2023. <https://doi.org/10.1016/j.neurobiolaging.2022.10.013>
- J20. [BMC'22] Zehao Yu, Xi Yang, Gianna L. Sweeting*, Yinghan Ma, Skylar E. Stolte*, **Ruogu Fang**, Yonghui Wu: Identify diabetic retinopathy-related clinical concepts and their attributes using transformer-based natural language processing methods, in *BMC Medical Informatics and Decision Making*, Sep. 2022. <https://doi.org/10.1186/s12911-022-01996-2>
- J21. [Frontiers'22] Peng Liu*, Linsong Xu, Garrett Fullerton*, Yao Xiao*, James-Bond Nguyen, Zhongyu Li, Izabella Barreto, Catherine Olguin, **Ruogu Fang**: PIMA-CT: Physical Model-Aware Cyclic Simulation and Denoising for Ultra-low-dose CT Restoration, in *Frontiers in Radiology*, section Artificial Intelligence in Radiology, May 25, 2022. <https://doi.org/10.3389/fradi.2022.904601>
- J22. [NeuroImage'21] Kyle B. See*, David J. Arpin, David E. Vaillancourt, **Ruogu Fang**[†], Stephen A. Coombes[†]: Unraveling Somatotopic Organization in the Human Brain using Machine Learning and Adaptive Supervoxel-based Parcellations, in *NeuroImage*, vol. 245, 118710, 16 pages, 2021. († co-corresponding authors) <https://doi.org/10.1016/j.neuroimage.2021.118710>
- J23. [NC'21] Peng Liu*, Charlie T. Tran*, Bin Kong, **Ruogu Fang**, CADA: Multi-scale Collaborative Adversarial Domain Adaptation for Unsupervised Optic Disc and Cup Segmentation, in *NeuroComputing*, vol. 469, pp. 209-220, 2021. <https://doi.org/10.1016/j.neucom.2021.10.076>
- J24. [Frontiers'21] Joseph M. Gullett, Alejandro Albizu, **Ruogu Fang**, David A. Loewenstein, Ranjan Duara, Monica Rosselli, Melissa J. Armstrong, Tatjana Rundek, Hanna K. Hausman, Steven T. Dekosky, Adam J. Woods, Ronald A.

- Cohen. Baseline neuroimaging predicts decline to dementia from amnesic mild cognitive impairment. *Frontiers in Aging Neuroscience*, 21 pages, 2021. (accepted). **Featured by UF Health**
- J25. [TCFD'21] Siddani, Bhargav, S. Balachandar, William C. Moore, Yunchao Yang, **Ruogu Fang**. Machine learning for physics-informed generation of dispersed multiphase flow using generative adversarial networks, in *Theoretical and Computational Fluid Dynamics*, 24 pages, 2021. <https://doi.org/10.1007/s00162-021-00593-9>
- J26. [PoF'21] Bhargav Siddani, S. Balachandar, and **Ruogu Fang**. Rotational and reflectional equivariant convolutional neural network for data-limited applications: Multiphase flow demonstration, in *Physics of Fluids*, vol. 33, no. 10, Article ID 103323, 18 pages, 2021. <https://doi.org/10.1063/5.0066049> (Editor's Pick)
- J27. [Nature SR'21] Jianqiao Tian*, Glenn Smith, Han Guo, Boya Liu, Zehua Pan, Zijie Wang, Shuangyu Xiong, **Ruogu Fang**: Modular machine learning for Alzheimer's disease classification from retinal vasculature, in *Nature Scientific Reports*, vol. 11, no. 1, Article ID 238, 11 pages, 2021. <https://doi.org/10.1038/s41598-020-80312-2>. **Highlighted in The Washington Post, UF Engineering News.**
- J28. [JCTS'21] Kyle See*, Rachel Ho, Steven Coombes, **Ruogu Fang**: TL1 Team Approach to Predicting Response to Spinal Cord Stimulation for Chronic Low Back Pain, in *Journal of Clinical and Translational Science*, vol. 5, no. s1, pp. 111-112, 2021. <https://doi.org/10.1017/cts.2021.685>
- J29. [MIA'20] Skylar E. Stolte*, **Ruogu Fang**: A Survey on Medical Image Analysis in Diabetic Retinopathy, in *Medical Image Analysis*, vol. 64, Article ID 101742, 27 pages, 2020. <https://doi.org/10.1016/j.media.2020.101742> **Impact Factor: 8.545**
- J30. [JCTS'20] Kyle See*, Rachel Louise Mahealani Judy*, Stephen Coombes, **Ruogu Fang**: TL1 Team Approach to Predicting Short-term and Long-term Effects of Spinal Cord Stimulation, in *Journal of Clinical and Translational Science*, vol. 4, no. s1, pp. 120, 2020. <https://doi.org/10.1017/cts.2020.362>
- J31. [BrainStim'20] Alejandro Albizu, **Ruogu Fang**, Aprinda Indahlastari, Andrew OShea, Skylar E. Stolte*, Kyle B. See*, Emanuel M. Boutzoukas, Jessica N. Kraft, Nicole R. Nissim, and Adam J. Woods: Machine learning and individual variability in electric field characteristics predict tDCS treatment response. in *Brain Simulation*, vol. 13, no. 6, 2020, pp. 1753-1764. **Impact Factor: 8.955** <https://doi.org/10.1016/j.brs.2020.10.001> **Featured by Ivanhoe, Alligator, UF Health.**
- J32. [JOSAA'20] E. A. Robledo, R. Schutzman, **R. Fang**, C. Fernandez, R. Kwasinski, K. Leiva, F. Perez-Clavijo, A. Godavarty: Physiological wound assessment from coregistered and segmented tissue hemoglobin maps, in *Journal of the Optical Society of America A*, vol. 37, no. 8, pp. 1249-1256, 2020. <https://doi.org/10.1364/JOSAA.394985>
- J33. [MIA'20] Yaxin Shen, Bin Sheng, **Ruogu Fang**, Huating Li, Ling Dai, Skylar Stolte*, Jing Qin, Weiping Jia, Dinggang Shen: Domain-Invariant Interpretable Fundus Image Quality Assessment, in *Medical Image Analysis*, vol. 61, Article ID 101654, 15 pages, 2020. <https://doi.org/10.1016/j.media.2020.101654> **Impact Factor: 8.545. (co-corresponding author)**
- J34. [JWEIA'20] Jianqiao Tian*, Kurtis Gurley, Maximillian Diaz, Pedro L. Fernandez Caban, Forrest J. Masters, **Ruogu Fang**: Low-Rise Gable Roof Buildings Pressure Prediction using Deep Neural Networks, in *Journal of Wind Engineering Industrial Aerodynamics*, vol. 196, Article ID 104026, 17 pages, 2020. <https://doi.org/10.1016/j.jweia.2019.104026>
- J35. [MIA'20] Prasanna Porwal, Samiksha Pachade, Manesh Kokare, Girish Deshmukh, Jaemin Son, Woong Bae, Lihong Liu, Jianzong Wang, Xinhui Liu, Liangxin Gao, TianBo Wu, Jing Xiao, Fengyan Wang, Baocai Yin, Yunzhi Wang, Gopichandh Danala, Linsheng He, Yoon Ho Choi, Yeong Chan Lee, Sang-Hyuk Jung, Zhongyu Li, Xiaodan Sui, Junyan Wu, Xiaolong Li, Ting Zhou, Janos Toth, Agnes Baran, Avinash Kori, Sai Saketh Chennamsetty, Mohammed Safwan, Varghese Alex, Xingzheng Lyu, Li Cheng, Qin hao Chu, Pengcheng Li, Xin Ji, Sanyuan Zhang, Yaxin Shen, Ling Dai, Oindrila Saha, Rachana Sathish, Tania Melo, Teresa Araujo, Balazs Harangi, Bin Sheng, **Ruogu Fang**, Debdoot Sheet, Andras Hajdu, Yuanjie Zheng, Ana Maria Mendonca, Shaoting Zhang, Aurelio Campilho, Bin Zheng, Dinggang Shen, Luca Giancardo, Gwenole Quellec, Fabrice Meriaudeau: IDRiD: Diabetic Retinopathy Segmentation and Grading Challenge, in *Medical Image Analysis*, vol. 59, Article ID 101561, 26 pages, 2020.

<https://www.sciencedirect.com/science/article/pii/S1361841519301033>. **Impact Factor: 8.545. Our team won First Place in the International Diabetic Retinopathy Grading and Segmentation Challenge**

- J36. [MIA'20] Jose Ignacio Orlando, Huazhu Fu, Joao Barbossa Breda, Karel van Keer, Deepti R. Bathula, Andres Diaz-Pinto, **Ruogu Fang**, Pheng-Ann Heng, Jeyoung Kim, JoonHo Lee, Joonseok Lee, Xiaoxiao Li, Peng Liu*, Shuai Lu, Balamurali Murugesan, Valery Naranjo, Sai Samarth R. Phaye, Sharath M. Shankaranarayana, Apoorva Sikka, Jaemin Son, Anton van den Hengel, Shujun Wang, Junyan Wu, Zifeng Wu, Guanghui Xu, Yongli Xu, Pengshuai Yin, Fei Li, Xiulan Zhang, Yanwu Xu, Hrvoje Bogunovic : REFUGE Challenge: A unified framework for evaluating automated methods for glaucoma assessment from fundus photographs, in *Medical Image Analysis*, vol. 59, Article ID 101570, 21 pages, 2020. <https://doi.org/10.1016/j.media.2019.101570>. **Impact Factor: 8.545 Top 25 Most Cited Paper since 2018**
- J37. [Lancet'19] Derek B Archer, Justin T Bricker, Winston T Chu, Roxana G Burciu, Johanna L Mccracken, Song Lai, Stephen A Coombes, **Ruogu Fang**, Angelos Barmountis, Daniel M Corcos, Ajay S Kurani, Trina Mitchell, Mienecia L Black, Ellen Herschel, Tanya Simuni, Todd B Parrish, Cynthia Comella, Tao Xie, Klaus Seppi, Nicolaas I Bohnen, Martijn L T M Müller, Roger L Albin, Florian Krismer, Guangwei Du 15, Mechelle M Lewis, Xuemei Huang, Hong Li, Ofer Pasternak, Nikolaus R McFarland, Michael S Okun, David E Vaillancourt. Vaillancourt: Development and Validation of the Automated Imaging Differentiation in Parkinsonism (AID-P): A Multi-Site Machine Learning Study, in *The Lancet Digital Health*, vol. 1, no. 5, pp. e222-e231, 2019. [https://doi.org/10.1016/S2589-7500\(19\)30105-0](https://doi.org/10.1016/S2589-7500(19)30105-0) **Featured on the Cover of Lancet Digital Health**
- J38. [JAMIA'19] Xi Yang, Jiang Bian, **Ruogu Fang**, Ragnhildur I. Bjarnadottir, William R. Hogan, Yonghui Wu: Identifying Relations of Medications with Adverse Drug Events Using Recurrent Convolutional Neural Networks and Gradient Boosting, in *Journal of the American Medical Informatics Association*, 2019. <https://doi.org/10.1093/jamia/ocz144>. **Impact Factor: 4.112**
- J39. [MIA'19] Peng Liu*, Yangjunyi Li*, Mohammad D El Basha*, Yao Xiao*, Pina C. Sanelli, **Ruogu Fang**: Deep Evolutionary Networks with Expedited Genetic Algorithm for Medical Image Denoising, in *Medical Image Analysis*, vol. 54, pp. 306-315, 2019. <https://doi.org/10.1016/j.media.2019.03.004> **Impact Factor: 13.8**
- J40. [Frontiers'19] Yao Xiao*, Peng Liu*, Yun Liang, Skylar Stolte*, Pina Sanelli, Ajay Gupta, Jana Ivanidze, **Ruogu Fang**: STIR-Net: Deep Spatial-Temporal Image Restoration Net for Radiation Reduction in CT Perfusion, in *Frontiers in Neurology*, vol. 10, Article ID 647, 16 pages, 2019. <https://doi.org/10.3389/fneur.2019.00647> **Impact Factor: 4.0**
- J41. [Nature SR'19] Saleha Masood*, **Ruogu Fang**, Huating Li, Bin Sheng, Ping Li, Akash Mathavan, Xiangning Wang, Po Yang, Qiang Wu, Jing Qin, Weiping Jia: Automatic Choroid Layer Segmentation from Optical Coherence Tomography Images Using Deep Learning, in *Nature Scientific Reports*, vol. 9, no. 1, Article ID 3058, 18 pages, 2019. <https://doi.org/10.1038/s41598-019-39795-x>
- J42. [CIN'18] Maryamossadat Aghili*, **Ruogu Fang**: Mining Big Neuron Morphological Data, in *Computational Intelligence and Neuroscience*, Article ID 8234734, 13 pages, 2018. <https://doi.org/10.1155/2018/8234734>.
- J43. [TCBY'18] Bin Sheng, Ping Li, Shuangjia Mo, Huating Li, Xuhong Hou, Qiang Wu, Jing Qin, **Ruogu Fang**, David Dagan Feng: Retinal Vessel Segmentation Using Minimum Spanning Superpixel Tree Detector, in *IEEE Transaction on Cybernetics*, Article ID 99, 13 pages, 2018. **Impact Factor: 11.448** 10.1109/TCYB.2018.2833963
- J44. [IET'17] Saleha Masood*, Bin Sheng, Ping Li, Ruimin Shen, **Ruogu Fang**, Qiang Wu: Automatic Choroid Layer Segmentation Using Normalized Graph Cut, in *IET Image Processing*, vol. 12, no. 1, pp. 53-59, 2017. <https://doi.org/10.1049/iet-ipr.2017.0273>
- J45. [PR'17] Zhongyu Li, **Ruogu Fang**, Fumin Shen, Shaoting Zhang: Indexing and Mining Large-Scale Neuron Databases using Maximum Inner Product Search, in *Pattern Recognition*, vol. 63, no. C, pp. 680-688, 2017. <https://doi.org/10.1016/j.patcog.2016.09.041>
- J46. [NC'17] Fei Jiang*, Huating Li, Xuhong Hou, Bin Sheng, Ruimin Shen, Xiao-Yang Liu, Weiping Jia, Ping Li, **Ruogu Fang**: Abdominal Adipose Tissues Extraction Using Multi-Scale Deep Neural Network, in *Neurocomputing*, vol. 229, no. C, pp. 23-33, 2017. **Impact Factor: 4.438** <https://doi.org/10.1016/j.neucom.2016.07.059>

- J47. [NC'17] **Ruogu Fang**, Ajay Gupta, Junzhou Huang, Pina Sanelli: TENDER: TEnsor Non-local Deconvolution Enabled Radiation Reduction in CT Perfusion, in *Neurocomputing*, vol. 229, pp. 13-22, 2017. <https://doi.org/10.1016/j.neucom.2016.03.109> **Impact Factor: 4.438**
- J48. [CSUR'16] **Ruogu Fang**, Samira Pouyanfar*, Yimin Yang, Shu-Ching Chen, and S. S. Iyengar: Computational Health Informatics in the Big Data Age: A Survey, in *ACM Computing Survey*, vol. 49, no. 1, pp.1-36, 2016. <https://doi.org/10.1145/2932707> **Impact Factor: 7.99**
- J49. [TMI'15] **Ruogu Fang**, Shaoting Zhang, Tsuhan Chen, Pina C. Sanelli: Robust Low-dose CT Perfusion Deconvolution via Tensor Total-Variation Regularization, in *IEEE Transaction on Medical Imaging*, vol. 34, no. 7, pp.1533-1548, 2015. **Impact Factor: 10.048** <https://doi.org/10.1016/j.compmedimag.2015.04.008>
- J50. [CMIG'15] **Ruogu Fang**, Tsuhan Chen, Dimitris Metaxas, Pina Sanelli, Shaoting Zhang: Guest Editorial: Sparsity Techniques in Medical Imaging, in *Computerized Medical Imaging and Graphics*, vol. 46, no. 1,p.1, 2015. <https://doi.org/10.1016/j.compmedimag.2015.07.002>
- J51. [CMIG'15] **Ruogu Fang**, Haodi Jiang*, Junzhou Huang: Tissue-Specific Sparse Deconvolution for Brain CT Perfusion, in *Computerized Medical Imaging and Graphics*, vol. 46, no. 1, pp. 64-72, 2015. <https://doi.org/10.1016/j.compmedimag.2015.04.008>
- J52. [MIA'14] **Ruogu Fang**, Kolbeinn Karlsson*, Tsuhan Chen, Pina C. Sanelli: Improving Low-Dose Blood-Brain Barrier Permeability Quantification Using Sparse High-Dose Induced Prior for Patlak Model, in *Medical Image Analysis*, 18(6), pp. 866-880, 2014. <https://doi.org/10.1016/j.media.2013.09.008> **Impact Factor: 10.9 (2024)**
- J53. [MIA'13] **Ruogu Fang**, Tsuhan Chen, Pina C. Sanelli: Towards Robust Deconvolution of Low-Dose Perfusion CT: Sparse Perfusion Deconvolution Using Online Dictionary Learning, in *Medical Image Analysis*, 17(4), pp. 417-428, 2013. <https://doi.org/10.1016/j.media.2013.02.005> **Impact Factor: 10.9 (2024). Top 25 Hottest Articles in Medical Image Analysis in 2013 April-June**

PEER-REVIEWED CONFERENCE/WORKSHOP PUBLICATIONS

Highlight: Total 95 conference publications, including 31 referred proceedings, 17 first author papers and 69 senior author papers (underlined), 13 in MICCAI (leading conference in Medical Image Analysis), 3 RSNA, 2 Best Paper Awards, 1 Best Abstract Award, 1 Presential Trainee Award, 1 Early Career Scientist Award, 1 NextGen Scholar Award, 4 Travel Awards, 1 NSF REU Best Poster Award

- C1. [IBS'25] Skylar E. Stolte*, Aprinda Indahlastari, Alejandro Albizu, Adam J. Woods, **Ruogu Fang**: Building tDCS Digital Twins: AI-Powered Prediction of Personalized Electrical Field Maps from MRI, in 6th International Brain Stimulation Conference, Kobe, Japan. February 23–26, 2025.
- C2. [NCF SfN'25] Gavin Hart G, Giovana Silva, Tyler Busch, Kevin Iversen, **Ruogu Fang**, Adam Woods, Aprinda Indahlastari Queen: Impacts of Head Tissue Variability on Predicted Current Density in Aging Brains, North Central Florida SfN Conference, February 7th, 2025.
- C3. [IBS'25] Junfu Cheng*, Daniel Rodriguez*, Aprinda Indahlastari, Adam Woods, **Ruogu Fang**: Baseline Clinical Markers and Machine Learning-Based Prediction of tDCS Treatment Outcomes in Anxiety Disorders, in 6th International Brain Stimulation Conference, Kobe, Japan. February 23–26, 2025.
- C4. [SPR'24] Gilbert, F., Yang, F., Farkas, A., Gardy, S., Engle, H., Cordova, A., Cheng, R., Sabatinelli, D., Ding, M., **Fang, R.**, & Keil, A. Implementation of an AI Generated Affective Picture Set: Self-report and Psychophysiological Validation. Society for Psychophysiological Research Annual Convention. Prague, CZ. 2024.
- C5. [BMES'24] Jason Chen*, Veronica Ramos*, Skylar Stolte*, Aprinda Indahlastari, Adam Woods, **Ruogu Fang**: Comparison of GRACE and SynthSeg Deep Learning Models for Whole-Head Brain Segmentation, in *Biomedical Engineering Society Annual Meeting*, Baltimore, MD. October 23-26, 2024.

- C6. [BMES'24] Daniel Rodriguez*, Junfu Cheng*, Skylar Stolte*, Aprinda Queen, Adam Woods, **Ruogu Fang**: Baseline Clinical Characteristics and Machine Learning Predict tDCS Treatment Outcomes for Anxiety, in *Biomedical Engineering Society Annual Meeting*, Baltimore, MD. October 23-26, 2024.
- C7. [VSS'24] Yujun Chen; Faith Gilbert; Ethan Smith; **Ruogu Fang**; Andreas Keil; Mingzhou Ding: Neural Responses to Natural Versus AI-generated Affective Images, *Vision Sciences Society Annual Meeting*, Vol. 24, 473, 2024. <https://doi.org/10.1167/jov.24.10.473>
- C8. [NASEM'24] National Academies of Sciences, Engineering, and Medicine: Exploring the Bidirectional Relationship Between Artificial Intelligence and Neuroscience: Proceedings of a Workshop. Washington, DC: The National Academies Press, 2024. <https://doi.org/10.17226/27764>.
- C9. [MICCAI'24] Skylar Stolte*, Aprinda Indahlastari, Alejandro Albizu, Adam Woods, **Ruogu Fang**. Towards tDCS Digital Twins using Deep Learning-based Direct Estimation of Personalized Electrical Field Maps from T1-Weighted MRI. Marrakesh, Morocco, October 6-10, 2024. (12 pages, early acceptance: 11%)
- C10. [EMBS'24] Seowung Leem*, Yunchao Yang, Adam J. Woods, **Ruogu Fang**: Deep Learning Analysis of Retinal Structures and Risk Factors of Alzheimer's Disease. 46th International Conference of the IEEE Engineering in Medicine and Biology Society, Orlando, FL. July 15-19, 2024. (**IEEE EMBC NextGen Scholar Award**, oral presentation)
- C11. [HEALTHINF'24] Chaoyue Sun, Yiyang Liu, Christina Parisi, Rebecca Fisk-Hoffman, Marco Salemi, **Ruogu Fang**, Brandi Danforth, Mattia Prosperi and Simone Marini: Learning on Forecasting HIV Epidemic Based on Individuals' Contact Networks. The 17th International Conference on Health Informatics (HEALTHINF/BIOSTEC), Rome - Italy, February 21 - 23, 2024, published in *Proceedings of the 17th International Joint Conference on Biomedical Engineering Systems and Technologies*, Volume 2, ISBN 978-989-758-688-0, ISSN 2184-4305, pages 103-111, 2024. DOI: <https://doi.org/10.5220/0012375400003657> (**Best Paper Award, only 1 among all submission**)
- C12. [BMES'23] Joseph Cox*, Yunchao Yang, Huiwen Ju, Justin Broce*, **Ruogu Fang**: Large Brain Models: Large-scale 3D Pretrained Deep Learning Models for Neuroimages, in *Biomedical Engineering Society Annual Meeting*, Seattle, WA. October 11-14, 2023.
- C13. [BMES'23] Seowung Leem*, Andreas Keil, Peng Liu*, Mingzhou Ding, **Ruogu Fang**: Can Deep Convolutional Neural Network Associate Emotions with Gabor Patches? in *Biomedical Engineering Society Annual Meeting*, Seattle, WA. October 11-14, 2023.
- C14. [BMES'23] Cameron Celeste, Dion Ming, Justin Broce, Diandra Ojo, Emma Drobina, Juan Gilbert, **Ruogu Fang**, Ivana Parker: Ethnic Disparity in Diagnosing Asymptomatic Bacterial Vaginosis Using Machine Learning, in *Biomedical Engineering Society Annual Meeting*, Seattle, WA. October 11-14, 2023.
- C15. [BMES'23] Dion Ming, Cameron Celeste, Emma Drobina, Justin Broce, Diandra Ojo, **Ruogu Fang**, Ivana Parker: Feature selection in ML identifies unique bacteria to consider for fair BV diagnosis among ethnicities, in *Biomedical Engineering Society Annual Meeting*, Seattle, WA. October 11-14, 2023.
- C16. [MICCAI'23] Skylar E. Stolte*, Kyle Volle, Aprinda Indahlastari, Alejandro Albizu, Adam J. Woods, Kevin Brink, Matthew Hale, **Ruogu Fang**: DOMINO++: Domain-aware Loss Regularization for Deep Learning Generalizability, *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Vancouver, Canada, October 8-12, 2023. (acceptance rate=32%)
- C17. [MDS'23] Joshua Wong, Sina Aghili-Mehrizi, Reza Forghani, Abbas Babajani, Michael Okun, Christopher Butson, **Ruogu Fang**. AI-guided microelectrode recording for GPi DBS in Parkinson's Disease, *International Congress of Parkinson's Disease and Movement Disorders*, 2023.
- C18. [AAPM'23] Zhuobiao Qiao^c, Zeyu Zhang, Zhuoran Jiang, Youfang Lai, Jessica Lee, Dapeng Oliver Wu, Chris Beltran, **Ruogu Fang**, Lei Ren, Mi Huang. Attention Module Embedded Generative Adversarial Network for Enhancing 3D CBCT Image Quality for Radiomics Analysis, *AAPM Annual Conference, Imaging Snap Oral Session*, Houston, TX, July 2023.
- C19. [SPR'23] Faith E Gilbert, Hannah M Engle, Caitlin M Traiser, Arash Mirifar, Christian Panitz, Jourdan Pouliot, Laura C Ahumada Hernandez, Ethan Smith^u, **Ruogu Fang**, Mingzhou Ding, Andreas Keil: Building and Evaluating an AI-

Generated, Standardized Affective Picture Dataset, Annual meeting of the Society for Psychophysiological Research, New Orleans LA, September 27 to October 1, 2023.

- C20. [ICDCS'23] Hong Huang*, Lan Zhang, Chaoyue Sun*, **Ruogu Fang**, Xiaoyong Yuan and Dapeng Wu: Distributed Pruning Towards Tiny Neural Networks in Federated Learning, the 43rd IEEE International Conference on Distributed Computing Systems (ICDCS 2023), July 18-21, 2023, Hong Kong (acceptance ratio: 18.9%)
- C21. [RSNA'22] Garrett Fullerton*, Simon Kato*, Dhanashree Rajderkar, John Rees, Pina Sanelli, **Ruogu Fang**: MAGIC: Multitask synthesis of contrast-free CT perfusion maps via generative adversarial network, in Annual Meeting of Radiology Society of North America (RSNA), Chicago, Nov. 27-Dec. 1, 2022.
- C22. [SfN'22] Seowung Leem*, Andreas Keil, Peng Liu*, Mingzhou Ding, **Ruogu Fang**: Differential Aversive and Appetitive Conditioning in Artificial Neural Networks, in Society of Neuroscience Annual Meeting, San Diego, CA. November 12, 2022.
- C23. [Diabetes'22] Yehua Wang, Ping Zhang, **Ruogu Fang**, Joshua Brown, Jingchuan Guo, Tianze Jiao, Hui Shao: 173-OR: Associations between Post-Discharge Care (PDC) and Cognitive Impairment-Related Hospital Readmissions for Ketoacidosis and Severe Hypoglycemia in Adults with Diabetes, *Diabetes* 71, no. Supplement_1, 2022.
- C24. [Diabetes'22] Dawei Guan, Ping Zhang, Shichao Tang, Joshua Brown, **Ruogu Fang**, Jingchuan Guo, Yongkang Zhang, Hui Shao: 893-P: Incremental Health Care Utilizations and Medical Expenditures Associated with Cognitive Impairment among Older Adults with Diabetes, in *Diabetes* 71, no. Supplement_1, 2022.
- C25. [MICCAI'22] Skylar Stolte*, Kyle Volle, Aprinda Indahlastari, Alejandro Albizu, Adam Woods, Kevin Brink, Matthew Hale, **Ruogu Fang**: DOMINO: Domain-aware Model Calibration in Medical Image Segmentation, 25th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), Singapore, Sep. 18-22, 2022. (**Best Paper Presentation Award Runner Up, Women in MICCAI**. Oral Presentation rate=2.3%, Early acceptance rate=13%) (12 pages)
- C26. [MAIN'21] Peng Liu*, Ke Bo, Lihan Cui, Yujun Chen, Charlie Tran*, Mingzhou Ding†, **Ruogu Fang**†: A deep neural network model for emotion perception, in *Montreal AI & Neuroscience (MAIN)*, November 29-30, 2021. († co-corresponding authors) **Best Abstract Award** (undergraduate and graduate level)
- C27. [SfN'21] Peng Liu*, Ke Bo, Lihan Cui, Yujun Chen, Charlie Tran*, Mingzhou Ding†, **Ruogu Fang**†: Emergence of emotion selectivity in deep neural networks trained to recognize visual objects, in *Annual Meeting of Society of Neuroscience*, November 8-16, 2021. († co-corresponding authors)
- C28. [SfN'21] Peng Liu*, Ke Bo, Lihan Cui, Yujun Chen, Charlie Tran*, **Ruogu Fang**†, Mingzhou Ding†: A deep neural network model for emotion perception, in *Annual Meeting of Society of Neuroscience*, November 8-16, 2021. († co-corresponding authors)
- C29. [SfN'21] Alejandro Albizu, **Ruogu Fang**, Aprinda Indahlastari, Andrew O'Shea, Skylar E. Stolte*, Kyle B. See*, Emanuel M. Boutzoukas, Jessica N. Kraft, Nicole R. Nissim, and Adam J. Woods: Machine-Learning Defined Precision tDCS for Improving Cognitive Function, in *Annual Meeting of Society of Neuroscience*, November 8-16, 2021.
- C30. [INS'21] Alejandro Albizu, **Ruogu Fang**, Aprinda Indahlastari, Andrew O'Shea, Skylar E. Stolte*, Kyle B. See*, Emanuel M. Boutzoukas, Jessica N. Kraft, Nicole R. Nissim, and Adam J. Woods: Individualized Machine-Learning Derived Transcranial Electrical Stimulation Optimization for Working Memory Improvement in Older Adults. 49th Annual Meeting of the International Neuropsychological Society.
- C31. [BMES'21] Garrett Fullerton*, Simon Kato*, **Ruogu Fang**: MAGIC: Multitask Automated Generation of Inter-modal CT Perfusion Maps via Generative Adversarial Network, in *Biomedical Engineering Society Annual Meeting*, Orlando, FL. October 6-9, 2021.
- C32. [BMES'21] Kyle See*, Rachel Judy, Stephen Coombes, **Ruogu Fang**: Predicting Treatment Outcome in Spinal Cord Stimulation with EEG, in *Biomedical Engineering Society Annual Meeting*, Orlando, FL. October 6-9, 2021.
- C33. [BMES'21] Hely Lin*, **Ruogu Fang**: Ensemble Machine Learning for Alzheimer's disease Classification from Retinal Vasculature, in *Biomedical Engineering Society Annual Meeting*, Orlando, FL. October 6-9, 2021.

- C34. [HealthNLP'21] Zehao Yu, Xi Yang, Gianna L Sweeting*, Yinghan Ma, Skylar E Stolte*, **Ruogu Fang**, Yonghui Wu: Identify Diabetic Retinopathy-related Clinical Concepts Using Transformer-based Natural Language Processing Methods, in *IEEE 9th International Conference on Healthcare Informatics (ICHI)*, Victoria, Canada (pp. 499-500), August 9, 2021.
- C35. [RSNA'20] Maximillian Diaz*, Jianqiao Tian*, **Ruogu Fang**: Machine Learning for Parkinson's Disease Diagnosis Using Fundus Eye Images, *Annual Meeting of Radiology Society of North America (RSNA)*, December 2020. (Oral Presentation) **Featured by Forbes, RSNA, Diagnostic Imaging, Medscape Medical News, American Journal of Managed Care, SciTech Daily, Applied Radiology The Journal of Practical Medical Imaging and Management, and 50+ media outlets.**
- C36. [APS'20] Bhargav Sriram Siddani, S. Balachandar, **Ruogu Fang**, William Chandler Moore, Yunchao Yang: Dispersed Multiphase Flow Generation using 3D Steerable Convolutional Neural Network, in *73rd Annual Meeting of the American Physical Society Division of Fluid Dynamics*, Volume 65, Number 13, Virtual, CT (Chicago Time), November 22-24, 2020.
- C37. [AHA'20] Skylar Stolte*, Yonghui Wu, William R Hogan, Yan Gong, **Ruogu Fang**: Artificial Intelligence For Characterizing Heart Failure In Cardiac Magnetic Resonance Images, in *American Heart Association Scientific Sessions*, November 13-17, 2020.
- C38. [NNC'20] Albizu A, **Fang R**, Indahlastari A, Nissim NR, O Shea A, Woods AJ: Determinants of Treatment Response to Transcranial Direct Current Stimulation, in *the 5th Annual NYC Neuromodulation Conference*, April 2020. **Outstanding Presentation by Early Career Scientist Award**
- C39. [INS'20] Alejandro Albizu, **Ruogu Fang**, Aprinda Indahlastari, Nicole R. Nissim, Andrew OShea, Adam J. Woods: Building Personalized Medicine Models for Therapeutic Applications of Transcranial Electrical Stimulation, in *the 48th Annual Meeting of the International Neuropsychological Society* in February 2020.
- C40. [SIIM'20] Yao Xiao*, Manuel M. Arreola, Izabella Barreto, Wesley E. Bolch, W. Christopher Fox, Keith Peters, Dhanashree A. Rajderkar, John H. Rees, **Ruogu Fang**: Multi-Series CT Image Super-Resolution by using Transfer Generative Adversarial Network, in *Society for Imaging Informatics in Medicine (SIIM) Annual Meeting*, Austin, Texas, June 24-26, 2020 (Oral)
- C41. [ISBI'20] Yao Xiao*, Keith R. Peters, W. Christopher Fox, John H. Rees, Dhanashree A. Rajderkar, Manuel M. Arreola, Izabella Barreto, Wesley E. Bolch, **Ruogu Fang**: Transfer-GAN: Multimodal CT Image Super-Resolution via Transfer Generative Adversarial Networks, in *IEEE International Symposium on Biomedical Imaging (ISBI)* (pp. 195-198), Iowa City, Iowa, April 3-7, 2020.
- Travel Awards funded by the US National Institutes of Health (NIH), National Institute of Biomedical Imaging and Bioengineering (NIBIB), National Cancer Institute (NCI), and Graduate Student Council)
- C42. [SPIE Medical Imaging'20] Yao Xiao* and **Ruogu Fang**: Transfer Generative Adversarial Network for Multimodal CT Image Super-Resolution, in *SPIE Medical Imaging* (vol. 11313, p.1131306), Houston, Texas, Feb 15-20, 2020 (Oral)
- C43. [SNAMC'20] Justin L Brown, Daniel El Basha*, Nathalie Correa, Yao Xiao*, Izabella Barreto, **Ruogu Fang**, Chan Kim, Wesley E. Bolch: Monte Carlo Dosimetry For CT Brain Perfusion Studies Utilizing Volumetric Acquisitions, in *Joint International Conference on Supercomputing in Nuclear Applications + Monte Carlo*, 2020.
- C44. [ASCPT'20] Marwa Tantawy, Sonal Singh, Guang Yang, Matt Gitzendanner, Yiqing Chen, Yonghui Wu, **Ruogu Fang**, William Hogan, Yan Gong: ZMAT4 and DOCK9 Variants Associated with Heart Failure in Breast Cancer Patients in the UK Biobank data, in *American Society for Clinical Pharmacology and Therapeutics Annual Meeting*, Houston, TX, March 18-21, 2020. **David Goldstein M.D., Ph.D., Presidential Trainee Award for the highest-scoring abstract 2020** (This award is presented each year to recognize the highest scoring trainee abstract.)
- C45. [RSNA'19] Yao Xiao*, Manuel Arreola, Izabella Barreto, W. Christopher Fox, Keith Peters, **Ruogu Fang**: Multimodal CT Image Super-Resolution via Transfer Generative Adversarial Network, in *Annual Meeting of Radiology Society of North American*, December 2019. (Oral presentation)

- C46. [MICCAI'19] Peng Liu*, Bin Kong, Zhongyu Li, Shaoting Zhang, **Ruogu Fang**: CFEA: Collaborative Feature Ensembling Adaptation for Domain Adaptation in Unsupervised Optic Disc and Cup Segmentation, in the *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, pp. 521-529, October 2019. (Early Acceptance Rate = 10%-15%)
- C47. [MICCAI'19] Siyuan Pan, Yuxin Xue, Bin Sheng, Xuhong Hou, Huating Li, **Ruogu Fang**, Weiping Jia, Jing Qin: Abdominal Adipose Tissue Segmentation in MRI with Double Loss Function Collaborative Learning, in *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, pp. 41-49, October 2019. (Early Acceptance Rate = 10%-15%)
- C48. [BMES'19] Yao Xiao*, **Ruogu Fang**: Multimodal CT Image Super-Resolution via Transfer-GAN, in *Biomedical Engineering Society Annual Meeting*, October 2019, Philadelphia, PA.
- C49. [BMES'19] Jianqiao Tian*, Max Diaz*, **Ruogu Fang**: Deep Learning-based Alzheimer's Disease Classification of FDG-PET and AV45 PET Images, in *Biomedical Engineering Society Annual Meeting*, October 2019, Philadelphia, PA.
- C50. [BMES'19] Skylar Stolte*, **Ruogu Fang**: Artificial Intelligence For Automated Diagnosis of Glaucoma In Stereoscopic Images, in *Biomedical Engineering Society Annual Meeting*, October 2019, Philadelphia, PA.
- C51. [BMES'19] Kyle See*, **Ruogu Fang**: Classification Of Neural Stimulations In The Brain With Super Voxels, in *Biomedical Engineering Society Annual Meeting*, October 2019, Philadelphia, PA.
- C52. [BMES'19] Skylar Stolte*, Kyle See*, Daniel El Basha*, **Ruogu Fang**: Retinal Disease Diagnosis Using Mobile Devices, in *Biomedical Engineering Society Annual Meeting*, October 2019, Philadelphia, PA.
- C53. [MICCAI'18] Peng Liu*, Yangjunyi Li, Mohammad D El Basha, **Ruogu Fang**: Neural Network Evolution Using Expedited Genetic Algorithm for Medical Image Denoising, in *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, pp. 12-20, September 2018, Granada, Spain.
- C54. [MICCAI'18] Yaxin Shen, **Ruogu Fang**, Bin Sheng, Ling Dai, Huating Li, Jing Qin, Qiang Wu, Weiping Jia: Multi-task Fundus Image Quality Assessment via Transfer Learning and Landmarks Detection, pp.28-36, *Machine Learning in Medical Imaging*, September 2018, Granada, Spain.
- C55. [BMES'18] Yao Xiao*, Peng Liu, **Ruogu Fang**: Low-Dose CT Perfusion Image Restoration and Radiation Reduction, in *Biomedical Engineering Society Annual Meeting*, Atlanta, GA, October 2018. (Oral Presentation)
- C56. [BMES'18] Yao Xiao*, Yun Liang, Yunmei Chen, Xiaojing Ye, and **Ruogu Fang**: Efficient Multi-Modality Medical Image Joint Reconstruction via Vectorized Gradient, in *Biomedical Engineering Society Annual Meeting*, Atlanta, GA, October 2018.
- C57. [BMES'18] Skylar Stolte*, Yao Xiao*, **Ruogu Fang**: Multi-Modality Brain Image Co-Registration, in *Biomedical Engineering Society Annual Meeting*, Atlanta, GA, October 2018.
- C58. [BMES'18] Kyle B. See*, **Ruogu Fang**: Decision Tree-based Classification for Differentiating System Lupus Erythematosus and Mixed Connective Tissue Disease, in *Biomedical Engineering Society Annual Meeting*, Atlanta, GA, October 2018.
- C59. [TAPIA'18] Yao Xiao*, Peng Liu*, Yun Liang*, **Ruogu Fang**: STDN: Spatial-Temporal De-noising Net for Radiation Optimization in CT Perfusion, in *ACM Richard Tapia Celebration of Diversity in Computing*, September, Orlando, FL. 2018. **Student Travel Scholarship**
- C60. [ASNR'18] Yao Xiao*, Yun Liang*, Yunmei Chen, Xiaojing Ye, **Ruogu Fang**: Multi-Modality PET-MRI Image Joint Reconstruction, in *ASNR 56th Annual Meeting & The Foundation of the ASNR Symposium*, Vancouver, Canada, June 2018. (Oral Presentation)
- C61. [ASNR'18] Yao Xiao*, Pina C. Sanelli, **Ruogu Fang**: Image Super-Resolution and Radiation Reduction via Deep Learning, in *ASNR 56th Annual Meeting & The Foundation of the ASNR Symposium*, Vancouver, Canada, June 2018. (Oral Presentation)

- C62. [ASNR'18] Peng Liu*, **Ruogu Fang**: Regulated-convolutional Networks for Low-dose Cerebral CT Perfusion Restoration, in *ASNR 56th Annual Meeting & The Foundation of the ASNR Symposium*, Vancouver, Canada, June 2018. (Oral Presentation)
- C63. [ISBI'18] Peng Liu*, **Ruogu Fang**: SDCNET: Smoothed Dense-Convolution Network For Restoring Low-Dose Cerebral CT Perfusion, in *IEEE International Symposium on Biomedical Imaging*, pp. 349-352, April 2018, Washington D.C.
- C64. [MICCAI'17] Yao Xiao*, **Ruogu Fang**: STAR: Spatio-Temporal Architecture for super-Resolution in Low-Dose CT Perfusion, in *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), Machine Learning in Medical Imaging Workshop*, pp. 97-105, September 2017, Quebec, Canada. **MICCAI Student Travel Award, 50/810=6% award rate**
- C65. [BMES'17] Yao Xiao*, **Ruogu Fang**: Cardiovascular Disease Prediction and Risk Factor Mining with RFMiner, in *Biomedical Engineering Society Annual Meeting (BMES) Annual Meeting*, October 11-14, 2017, Phoenix, Arizona.
- C66. [BMES'17] Yao Xiao*, **Ruogu Fang**: Accelerated Brain Perfusion Imaging via Spatio-Temporal Super-Resolution, in *Biomedical Engineering Society Annual Meeting (BMES) Annual Meeting*, October 11-14, 2017, Phoenix, Arizona. (oral presentation)
- C67. [BMES'17] Peng Liu*, **Ruogu Fang**: A Simple and Realistic Simulation Method for Low-Dose CT., in *Biomedical Engineering Society Annual Meeting (BMES) Annual Meeting*, October 11-14, 2017, Phoenix, Arizona.
- C68. [CHASE'17]) Yao Xiao*, **Ruogu Fang**: RFMiner: Risk Factors Discovery and Mining for Preventive Cardiovascular Health, in *the Second IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies*, pp. 278-279, July 2017, Philadelphia, USA. (**NSF Student Travel Award**)
- C69. [NIPS WiML'16] Maryamossadat Aghili*, **Ruogu Fang**: Towards High-Throughput Abnormal Brain Screening in MRI Images, in *Women in Machine Learning Workshop, Neural Information Processing Systems (NIPS)*, December 2016, Barcelona, Spain.
- C70. [BMES'16b] Paul Naghshineh*, Peng Liu*, **Ruogu Fang**: CT Perfusion Image Super-Resolution Using a Deep Convolutional Network, in *Biomedical Engineering Society Annual Meeting (BMES)*, October 5-8, 2016 in Minneapolis, Minnesota. (NSF-REU Best Post Award, SCIS FIU)
- C71. [BMES'16a] Anuradha Godavarty, Rebecca Kwasinski, Cristianne Fernandez, Yuanyuan Zhu*, Edwin Robledo, F. Perez-Clavijo, **Ruogu Fang**: Physiological Assessment of Wound Healing using a Near-Infrared Optical Scanner, in *Biomedical Engineering Society Annual Meeting (BMES)*, October 5-8, 2016 in Minneapolis, Minnesota.
- C72. [ISBI'16c] **Ruogu Fang**, Xing Pang*, Arash Dadkhah, Jiali Lei, Elizabeth Solis, Suset Rodriguez, Francisco Perez-Clavijo, Stephen Wigley, Charles Buscemi, Anuradha Godvarty: Automatic Segmentation of Lower Extremity Ulcers in Near-Infrared Optical Imaging, in *IEEE International Symposium on Biomedical Imaging (ISBI)*, Prague, Czech Republic, April 2016.
- C73. [ISBI'16b] Zhongyu Li, Fumin Shen, **Ruogu Fang**, Sailesh Conjeti, Amin Katouzian, Shaoting Zhang: Maximum Inner Product Search for Morphological Retrieval of Large-Scale Neuron Data, in *IEEE International Symposium on Biomedical Imaging (ISBI)*, pp. 602-606, Prague, Czech Republic, April 2016. (Oral Presentation Rate: 19%)
- C74. [ISBI'16a] **Ruogu Fang**, Ajay Gupta, Pina C. Sanelli: Direct Estimation of Permeability Maps for Low-Dose CT Perfusion, in *IEEE International Symposium on Biomedical Imaging (ISBI)*, pp. 739-742, Prague, Czech Republic, April 2016.
- C75. [OSA'16] Xing Pang*, Arash Dadkhah, Jiali Lei, Elizabeth Solis, Suset Rodriguez, Francisco Perez-Clavijo, Stephen Wigley, **Ruogu Fang**, Anuradha Godvarty: Near-Infrared Optical Imaging and Wound Segmentation in Lower Extremity Ulcers, in *Optical Society of America Annual Meeting (OSA)*, pp. JTu3A-43, 2016.

- C76. [SPIE'16] Arash Dadkhah, Xing Pang*, Elizabeth Solis, **Ruogu Fang**, Anuradha Godvarty: Wound Size Measurement of Lower Extremity Ulcers Using Segmentation Algorithms, in *SPIE Proceedings in Photonics West*, vol. 9703, p. 97031D, San Francisco, February 2016.
- C77. [WI'16] **Ruogu Fang**, Xing Pang*, Arash Dadkhah, Jiali Lei, Elizabeth Solis, Suset RODriguez, Francisco Perez-Calvijo, Stephen Wigley, Charles Buscemi, Anuradha Godvarty, in *Wound Segmentation in Near-Infrared Optical Imaging*, in *Innovation in Wound Healing*, Hawks Cay, FL. 2015.
- C78. [WI'16] Rebecca Kwasinski, Cristianne Fernandez, Kevin Leiva, Edwin Robledo, Yuanyuan Zhu, Penelope Kallis, Francesco-Perez Clavijo, **Ruogu Fang**, Robert Kirsner, Anuradha Godavarty: Hemodynamic Imaging of Lower Extremity Ulcers, *Innovations in Wound Healing*, 2016.
- C79. [MICCAI'15] Ruoyu Li, Yeqing Li, **Ruogu Fang**, Shaoting Zhang, Junzhou Huang: Fast Preconditioning for Accelerated Multi-Contrast MRI Reconstruction, in *the 18th Annual International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, pp. 700-707, Munich, Germany, Oct. 5-9, 2015. (Oral Presentation Rate: 4%)
- C80. [MICCAI-MCV'15] **Ruogu Fang**, Ming Ni, Junzhou Huang, Qianmu Li, Tao Li: Efficient 4D Non-Local Tensor Total-Variation for Low-Dose CT Perfusion Deconvolution, *The 18th Annual International Conference on Medical Image Computing and Computer Assisted Intervention, Workshop on Medical Computer Vision*, pp. 168-179, Munich, Germany, October 2015.
- C81. [BMES'15] **Ruogu Fang**, Ming Ni, Junzhou Huang, Qianmu Li, Tao Li: Robust Low-Dose CT Perfusion Deconvolution via Non-Local Tensor Total Variation, in *Biomedical Engineering Society Annual Meeting (BMES)*, Tampa, FL, October 2015.
- C82. [ISMRM'15] **Ruogu Fang**: 4-D Spatio-Temporal MR Perfusion Deconvolution via Tensor Total Variation, in *International Society for Magnetic Resonance in Medicine Annual Meeting 2015* (Oral presentation, corresponding author).
- C83. [ISBI'15b] Menglin Jiang, Shaoting Zhang, **Ruogu Fang**, Dimitris Metaxas: Leveraging Inverted Multi-Index for Scalable Retrieval of Mammographic Masses, in *IEEE International Symposium On Biomedical Imaging: From Nano To Macro*, pp. 276-280, New York, NY April 2015. Oral Presentation Rate: 18%
- C84. [ISBI'15a] **Ruogu Fang**, Junzhou Huang, Wen-Ming Luh: A Spatio-Temporal Low-Rank Total Variation Approach For Denoising Arterial Spin Labeling MRI Data, in *IEEE International Symposium On Biomedical Imaging: From Nano To Macro*, pp. 154-161, New York, NY April 2015.
- C85. [MICCAI'14] **Ruogu Fang**, Pina Sanelli, Shaoting Zhang, Tsuhan Chen: Tensor Total-Variation Regularized Deconvolution for Efficient Low-Dose CT Perfusion, in *The 17th Annual International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, pp. 89-96, Boston, MA. September 2014. **MICCAI Student Travel Award**
- C86. [MICCAI-STMI'14] **Ruogu Fang**, Tsuhan Chen, Pina C. Sanelli: Anisotropic Tensor Total Variation Regularization For Low Dose Low CT Perfusion Deconvolution, in *The 17th Annual International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), Workshop on Sparsity Techniques in Medical Imaging*, Boston, MA. September 2014.
- C87. [MICCAI'13] **Ruogu Fang**, Tsuhan Chen, Pina Sanelli: Tissue-Specific Sparse Deconvolution for Low-Dose CT Perfusion, in *The 16th Annual International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Japan, 2013.
- C88. [ICIP'13] **Ruogu Fang**, Andrew C. Gallagher, Tsuhan Chen, Alexander Loui: Kinship Classification by Modeling Facial Feature Heredity, in *IEEE International Conference on Image Processing*, pp. 2983-2987, Melbourne, Australia, 2013 (Oral presentation)
- C89. [MICCAI'12] **Ruogu Fang**, Tsuhan Chen, Pina Sanelli: Sparsity-Based Deconvolution of Low-Dose Perfusion CT Using Learned Dictionaries, in *The 15th Annual International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Nice, France, Lecture Notes in Computer Science Volume 7510, pp. 272-280, 2012. (corresponding author)

- C90. [ISBI'12] **Ruogu Fang**, Tsuhan Chen, Pina Sanelli: Sparsity-Based Deconvolution Of Low-Dose Brain Perfusion CT In Subarachnoid Hemorrhage Patients, in *The 9th IEEE International Symposium on Biomedical Imaging*, pp. 872-875, 2012 **Oral Presentation Rate: 18%**
- C91. [SPIE'12] **Ruogu Fang**, Ashish Raj, Tsuhan Chen, Pina C. Sanelli: Radiation dose reduction in computed tomography perfusion using spatial-temporal Bayesian methods, in *Proceedings of SPIE Medical Imaging*, Volume 8313, Paper 831345, 2012. (corresponding author)
- C92. [MICCAI-AI'11] **Ruogu Fang**, Ramin Zabih, Ashish Raj, Tsuhan Chen: Segmentation of Liver Tumor Using Efficient Global Optimal Tree Metrics Graph Cuts, in *Abdominal Imaging*, in the *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, pp. 51-59, 2011 (Oral presentation, corresponding author)
- C93. [ICIP'10] **Ruogu Fang**, Kevin D. Tang, Noah Snavely, Tsuhan Chen: Towards Computational Models of Kinship Verification, in *The 17th IEEE International Conference on Image Processing*, pp. 1577-1580, Hong Kong, 2010. Oral presentation, **Best Paper Award, 1/1190 accepted papers**
- C94. [WNYIPW'10] **Ruogu Fang**, Joyce Yu-hsin Chen, Ramin Zabih, Tsuhan Chen: Tree-Metrics Graph Cuts For Brain MRI Segmentation With Tree Cutting, in *IEEE Western New York Image Processing Workshop*, pp. 10-13, 2010 (Oral presentation).
- C95. [VISAPP'09] Chongyang Liu, **Ruogu Fang**, Nelson H.C.Yung: Adaptive Scale Robust Feature Density Approximation For Visual Object Representation And Tracking, pp. 535-540, in *IEEE International Conference on Computer Vision Theory and Applications*, Lisboa, Portugal, 2009.

PATENTS

- P1. Systems And Methods for Image Denoising Via Adversarial Learning. Inventors: **Ruogu Fang** and Peng Liu. WO 2021/202170 A1. International patent. Published on Oct. 7, 2021. PCT/US2021/043635, Published on July 29, 2021.
- P2. Multimodal CT Image Super-Resolution Via Transfer Generative Adversarial Network. Inventor(s): **Ruogu Fang**, Yao Xiao. U.S-2021-0272237-A1. Published on Sep. 2, 2021.
- P3. Neural Network Evolution Using Expedited Genetic Algorithm for Medical Image Denoising. Inventors: **Ruogu Fang**, Peng Liu. Published on March 12, 2020. U.S. Utility Patent US 11,069,033 B2. Published on July 20, 2021.
- P4. System and Method For Interactive Segmentation On Mobile Devices in a Cloud Computing Environment. **Ruogu Fang**, Leo Grady, Gianluca Paladini, Siemens Corporation, U.S. Patent No: US20130272587 A1, WO2012027259 A2, WO2012027259 A3. Published on March 1, 2012.
- P5. A Machine Learning System And Method For Predicting Alzheimer's Disease Based On Retinal Fundus Images. Inventor(s): **Ruogu Fang** and Jianqiao Tian. T18201US001 (222107-8215). International Patent published on Dec. 2, 2021. WO 2021/243246 A1.
- P6. System and Method for Precision Dosing For Electrical Stimulation of the Brain. Adam Woods, Alexandro Albizu, **Ruogu Fang**, Aprinda Indahlastari. PCT/US2021/043495, published on July 28, 2021. International patent published on Feb. 3, 2022. WO 2022/026573 A1.
- P7. Machine Learning for Predicting Parkinson's Disease Based on Retinal Fundus Images. Inventor(s): **Ruogu Fang**, Max Diaz. PCT/US2021/061182, published on Nov. 30, 2021.
- P8. Prediction of Functional Motor Tasks with Dynamic Supervoxel Parcellations. Inventor(s): **Ruogu Fang**, Kyle See, Steven Coombes. PCT/US2022/081801, published on Dec. 16, 2022.
- P9. System and Methods for Predicting Perfusion Images from Non-Contrast Scans. Inventor(s): **Ruogu Fang**, Garrett Fullerton, Simon Kato. 63/395,561, published on Feb. 8, 2024. US-2024-0041417-A1.
- P10. CFEA: Collaborative Feature Ensembling Adaptation for Domain Adaptation in Unsupervised Optic Disc and Cup Segmentation. Inventor(s): **Ruogu Fang**, Peng Liu, PCT/US2021/023678, published on March 23, 2021.

GRANTS & FUNDING

Awarded Summary (2014-2024)

Number of Grants:	35
Number of PI Grants:	14
Total Amount:	\$ 51.4 M
Total Since Joining UF:	\$ 48.6 M
PI Amount:	\$ 6.1 M
Faculty Share:	\$ 3.5 M

FEDERAL GRANTS

- G1. NIH NIA, RF1/R01AG071469, **MPI (Fang-contact, Woods), \$2,925,577 (Fang: \$905,328)**, 2021-2025. "Mechanisms, response heterogeneity and dosing from MRI-derived electric field models in tDCS augmented cognitive training: a secondary data analysis of the ACT study."
- G2. NSF NCS-FO-2318984, **PI, \$920,000**, 2023-2027, "NCS-FO: Brain-Inspired Goal-Oriented and Bidirectional Deep Emotion Inference".
- G3. NSF, IIS-1908299, **PI, \$823,000 (Fang: \$796,619)**, 2019-2024. "III: Small: Modeling Multi-Level Connectivity of Brain Dynamics" + REU Supplement.
- G4. NSF, IIS-1564892, **Single PI, \$190,991 (Fang: \$190,991)**, 2016-2018. "CRII: SCH: Characterizing, Modeling and Evaluating Brain Dynamics".
- G5. ORAU, 800006901, **Single PI, \$10,000 (Fang: \$10,000)**, 2016-2017. "Modeling, Estimating and Reasoning in Limited Data Brain Dynamics", Ralph Lowe Junior Faculty Enhancement Award, Oak Ridge Associated Universities (ORAU).
- G6. NSF, IIS, **Co-PI, \$840,000 (Fang: \$301,176, Total \$1.2M)**, 2021-2025. "Collaborative Research: SCH: Trustworthy and Explainable AI for Neurodegenerative Diseases".
- G7. NIH NIGMS, Co-I (PI: Azra Bihoric, Benjamin Shickel, Yulia Strekalova) **\$2,560,101**, 2024-2029 "R25: Artificial Intelligence Passport for Biomedical Research: Digital Experiential Learning Community for Upskilling in Artificial Intelligence for Biomedical, Behavioral and Clinical Research."
- G8. NIH NIA, R01, **Co-I (PI: David Clark), \$4.98M**, 2023-2028. "R01: Cognitively engaging walking exercise and neuromodulation to enhance brain function in older adults".
- G9. NIH NIAID, Co-I (MPI: Marco Salemi, Mattia Prosperi) **\$2.8M (Fang: \$86,475)**, 2020-2024. "R01: Forecasting trajectories of HIV transmission networks with a novel phylodynamic and deep learning framework".
- G10. NIH NIAID, P01AI165380, **Co-I (PI: Gayle E. Woloschak, Northwestern University), \$10,703,529 (\$1.95M to UF)**. 2022-2027. "P01: Multi-Scale Evaluation and Mitigation of Toxicities Following Internal Radionuclide Contamination".
- G11. NIH NIAAA, P01AA029543, **Co-I (PI: Samuel Wu & Robert Cook), \$7,649,365 (Fang: \$113,802)**. 2021-2026. "P01: Interventions to improve alcohol-related comorbidities along the gut-brain axis in persons with HIV infection".
- G12. NIH NIAAA, P01AA029547, **Co-I (PI: Samuel Wu & Robert Cook), \$1,755,506 (Fang: \$102,301)**. 2021-2026. "P01: SHARE Program: Innovations in Translational Behavioral Science to Improve Self-management of HIV and Alcohol Reaching Emerging adults".
- G13. NIH NIAAA, U24AA029959, **Co-Investigator (PI: Samuel Wu), \$2,491,414 (Fang: \$70,185)**. 2021-2026 "Southern HIV and Alcohol Research Consortium Biomedical Data Repository".
- G14. NIH NIMH, R01MH125615, **Co-Investigator (PI: Mingzhou Ding & Keil Andreas), \$2,279,906 (Fang: 115,817)**, 2021-2026. "Acquisition, extinction, and recall of attention biases to threat: Computational modeling and multimodal brain imaging".

- G15. NIH NINDS, U01NS119562, **Co-Investigator** (PI: David Vaillancourt), **\$5,264,645 (Fang: \$69,973)**, 2021-2026. "Web-based Automated Imaging Differentiation of Parkinsonism."
- G16. NSF, CNS 1747783, **Co-Investigator** (PI: Jose Principe), **\$900,478**, 2018-2022. "Phase I IUCRC University of Florida: Center for Big Learning"
- G17. Department of Homeland Security (DHS), DHS-16-ST-062-001, **Co-Investigator** (PI: Jason Liu), **\$1,200,000**, 2017-2020. "Scientific Leadership Awards for Minority Serving Institutions Granting Bachelor's Degrees"
- G18. NSF, CNS-1560134, **Senior Personnel** (PI: Niki Pissinou), **\$360,000**, 2016-2020. "REU SITE: ASSET: Research Experiences for Undergraduates in Advanced Secured Sensor Enabling Technologies"
- G19. NSF, CNS-1263124 **Senior Personnel** (PI: Niki Pissinou), **\$360,000**, 2013-2017, "REU SITE: ASSET: Research Experiences for Undergraduates in Advanced Secured Sensor Enabling Technologies"
- G20. NSF, CNS-1407067, **Senior Personnel** (PI: Niki Pissinou), **\$498,000**, 2014-2018. "RET in Engineering and Computer Science SITE: Research Experience for Teachers on Cyber-Enabled Technologies"

INTERNAL GRANTS

- G21. UF Presidential Strategic Fund, **AI Lead**, UF StrokeInsight: AI-Powered Stroke Care, \$1M, University of Florida.
- G22. 2023 Research Opportunity Fund, **Co-PI, \$86,500**, 2023-2025. "DRPD-ROF2023: Learning optimal treatment strategies for hypotension in critical care patients with acute kidney injury using artificial intelligence", University of Florida.
- G23. Artificial Intelligence Research Catalyst Fund, **PI, \$50,000 (Fang: \$50,000)**, 2020-2021. "VCA-DNN: Neuroscience-Inspired Artificial Intelligence for Visual Emotion Recognition", University of Florida,
- G24. UFII-CTSI Pilot Award, **PI, \$75,000 (Fang: \$750,000)**, 2018-2019. "Precision Dose: Personalized Radiation Dose Optimization for Multimodal Imaging", University of Florida.
- G25. UFII Junior SEED Award, **Co-PI, \$40,000 (PI: Wu; Fang: \$20,000)**, 2019-2020. Multimodal Visual-Text Learning from Clinical Narrative and Image for Early Detection of Diabetic Retinopathy, University of Florida.
- G26. UFII-CTSI Pilot Award, **Co-PI, \$60,000 (PI: Gong; Fang: \$20,000)**, 2019-2020. Toward prevention of cardiotoxicity in cancer: a multimodal approach leveraging genomics, images and clinical data, University of Florida.
- G27. Seed Grant, **Co-PI \$5,552, (PI: Godavarty)**, 2016-2017. "Quantitative Differentiation Of Healing And Non-Healing Diabetic Ulcers Using Near-Infrared Optical Imaging", Florida International University.
- G28. NIH CTSC, **Co-PI, \$100,000, (PI: Gupta)**, 2015-2017. "Minimal Radiation Exposure Technology For Acute Stroke Assessment In CT Perfusion Using Sparse Deconvolution And Dictionary Learning".
- G29. Faculty Seed Grant for Collaborations Between Cornell University-Ithaca and Weill Cornell Medical College, **Co-Investigator \$50,000, (PI: Chen, Gupta)**, 2014-2015. Learning-Based Low Radiation CT Perfusion for Acute Stroke Diagnosis, Cornell University.

INDUSTRY SUPPORT

- G30. NVIDIA Corporation, **PI**, Deep Learning GPU Equipment. 2016
- G31. Oracle Research Award, **PI**, \$100K, Cloud credit, 2022.

MENTEE GRANTS

- G32. UF Informatics Institute, **Mentor (Mentee: Peng Liu), \$11,616**, 2020-2021. “Biology and Cognition Inspired Deep Learning”, University of Florida.
- G33. NIH CTSI TL1 Predoctoral Fellowship. **Mentor (Mentee: Kyle B. See), \$11,200**, 2019-2021. “Predicting short-term and long-term effects of spinal cord stimulation: implications for clinical practice” University of Florida
- G34. NIH F31 Ruth L. Kirschstein Predoctoral Individual National Research Service Award, Co-sponsor (Mentee: Andrew Moore), \$99,815, 2023-2025. “Identification of Prospective Predictors of Alcohol Initiation During Early Adolescence”, National Institute of Health (NIH)/ National Institute on Alcohol Abuse and Alcoholism (NIAAA)
- G35. NIH NIA K23 Using Artificial Intelligence to Predict Cognitive Training Response in Amnesic Mild Cognitive Impairment (Mentee: Joseph Gullet), 09/2022 - 08/2027, \$833,352.

TEACHING

University of Florida, BME Department, Gainesville, FL

Instructor

- BME4931 Medical AI (Evaluation: 5/5) **UF AI Course Award** F/23
- BME 3053C: Computer Applications for BME (Evaluation: F’20: 4.83/5) F’17-22
 - Final Project Spotlight: [2020](#), [2021](#), [2022](#)
- BME 6938 Multimodal Data Mining* (S’19: 4.71/5, S’21: 4.92/5, S’23: 4.86/5) S’19, 21, 23
- BME 4931 Medical Artificial Intelligence (5.0/5.0)* F’23
- NeuroAI T32 Machine Learning Workshop Summer’21

Guest Lecturer

- BME1008: Introduction to BME F’18,20, S’19-20
- BME4531: Medical Imaging F’18
- GMS6803: Data Science for Clinical Research F’19-22
- GMS6850: Foundations of Biomedical Informatics F’20,22
- ESI 6616: Data Analytics for System Monitoring F’22

Florida International University

Instructor

- CAP 4770: Introduction to Data Mining (Average Evaluation: 4.74/5) F’15-16
- CAP 5610: Machine Learning (Average Evaluation: 4.46/5) S’14-16

*Note: ‘F’ and ‘S’ denote Fall and Spring respectively. * indicates new course (series) I created.*

MENTORING

Current Postdoc Associates

- PD1. Peng Liu: 10/2023 - present (supported by NSF NCS award)
- PD2. Wasif Khan: 10/2024 – present (supported by NSF SCH award)

Postdoc Alumni

- PD3. Diandra Ojo (Female, African American): 12/2023 – 08/2024

Current Ph.D. Students (7)

- P1. Skylar E. Stolte (Female): 08/2020-12/2025 (expected)

- NIH F31 NRSA Fellow
- Graduate School Preeminence Award
- Attributes of Gator Engineer Award

- Cluff Aging Research Award
- Pioneering Research HiPerGator Award

P2. Chaoyue Sun: 08/2020-12/2024 (expected)

P3. Seowung Leem: 08/2021-08/2025 (expected)

P4. Joseph Cox: 08/2022-08/2026 (expected)

- NIH NIAAA T32 Fellow

P5. Daniel Rodriguez (Hispanic): 08/2022 – 08/2026 (expected)

- NIH T1D T32 Fellow

P6. Junfu Cheng: 08/2024 – 08/2028 (expected)

P7. Zhimin Zong: 08/2022 – 08/2027 (expected) [co-chair with Dr. Jie Xu]

Ph.D. Alumni

P7. Yao Xiao (Female): 01/2017 – 08/2020

- Dissertation: Deep Learning for Multimodal CT Image Quality Enhancement and Radiation Exposure Optimization
- BMES Career Development Awardee, 2020.
- Commencement Student Speaker, University of Florida, College of Engineering, 2020.
- First Placement: Postdoc, MD Anderson, TX
- Current Position: Assistant Professor, Mayo Clinic, Rochester, MN

P8. Peng Liu: 05/2016-12/2021

- Dissertation: Biology and Neuroscience Inspired Deep Learning
- UF Informatics Institute Fellowship
- Montreal AI & Neuroscience Conference Best Paper Award
- First Placement: Postdoc, Dartmouth College
- Current Position: Postdoc, University of Florida

P9. Tianqi Liu: 08/2019 – 01/2024

- Dissertation: Advanced Technologies for Video Coding
- Meta Industrial Foundation Fund
- First Placement: Senior Researcher, Tencent Americas, Palo Alto, California

P10. Kyle B. See: 08/2019 - 08/2024

- Dissertation: Interpretable Artificial Intelligence for Precision Health
- NIH TL1 Fellow, Graduate School Preeminence Award
- First Placement: Postdoc, University of Florida

Current Master Students (3)

- M1. Travis Koenig, 08/2023 - 12/2024
- M2. Pratyush Shukla, 08/2023 - 12/2024
- M3. Zeyun Zhao, 08/2024 - present

Master's Alumni (21)

- M4. Haodi Jiang, CISE, 2014-2015 (Ph.D. student at New Jersey Institute of Technology. Now Assistant Professor, Sam Houston State University)

- M5. Jingan Qu, CISE, 2015-2017 (Now Data Scientist @ Cleveland Clinic)
- M6. Daniel Parra, CISE, 2015-2016.
- M7. Micheal Adeyosoye (African American): CISE, 2016-2017, Bridge to Ph.D. Fellowship.
- M8. Skylar E. Stolte. BME, 2019-2020 (continue as a Ph.D. student in my lab)
- M9. Jianqiao Tian: 08/2018-12/2020 (now PhD at Mayo Clinic)
- M10. Shreya Verma (Female), BME, 03/2020 – 05/2021. (now at UIUC)
- M11. Bhavin Soni, BME, 08/2019 - 05/2021 (First placement: Neuroimaging Engineer @Washington University in St. Luis. Current Placement: Data Scientist @ MD Anderson Cancer Center)
- M12. Jiaqing Zhang, ECE, 03/2022-08/2022 (continued as PhD at UF ECE)
- M13. Ziqian Huang, ECE, 03/2022-08/2022 (continued as PhD at UF BME)
- M14. Ayesha Naikodi, 05/2022-05/2023 (continued as PhD at UF ECE)
- M15. Kai Shen, BME, 05/2021-05/2023 (continued as PhD at UF IFAS)
- M16. Jimmy Ossa, BME, 05/2021-05/2023 (now Software Engineer @ Infotech)
- M17. Everett J. Schwieg, 08/2022 – 05/2024
- M18. Fan Yang, 08/2022-05/2024 (Ph.D. student in NJIT)
- M19. Divyansh Singh, CISE (continued as PhD at UF CISE)
- M20. Perna Venugopal, CISE, (now Software Engineer @ Suquino)
- M21. Qiangeng Yang, ECE, (continued as PhD at UF ECE)

Current Postbac Associate (1)

Gavin Hart (NIH GATORAADE Fellow)

Current Undergrad (14)

Akshay Ashok, Veronica Ramos, Thrisha Acharya, Grace Cheng, Jason Chen, Amy Lazarte, Cynthia Liu, Minhyeok Wi, Samuel Zheng, Ritika Samanta, Sanandan Ojha, Surya Karthikeyan Vijaylakshmi, Rohan Shah,

NSF Graduate Research Fellowship Program (NSF GRFP) (3)

Maximillian Diaz, Daniel El Basha, Garrett Fullerton

NSF Research Experience for Undergraduates (REU) Mentee (10)

Mohammad Daniel El Basha, Kyle B. See, Akshay Mathavan, Akash Mathavan, Max Diaz, Garrett Fullerton, Simon Kato, Brian John Braddock, Jason Chen, Amy Lazarte

Past Undergrad (51)

Joshua Lamb, Kyle Douglas, Kevin Liu, Thomas Howland, Justin Broce, Yiru Mu, Alvin Naiju, Jordi Bardia, Brian John Braddock, Hely Lin, Ethan Smith, Eugene Li, Garrett Fullerton, Simon Kato, Gianna Sweeting, Michael Quentin McGaha, Keyur Patel, Maria Cardei, Nathan Barkdull, Matthew Nguyen, Sruthika Baviriseaty, Harrison Chaize Santiago, Nicolaas P de Jong, Sumanth Aluri, Max Diaz, Adeeb Rashid, Jason Chen, Edward Zhang,

Mohammad Daniel El Basha, Kyle B. See, Akshay Mathavan, Akash Mathavan, Skylar Stolte, Paul Naghshineh, Sherman Ng, Benjamin Arnold, Michelle Mu, Sumanth Aluri, Rachel Peebles, Ahmet Bilgili, Peiwen (Riley) Gao, Neeva Sethi, Muhamed Maher, Abdul-Vehab Dozic, Isha Gupta, Jacob Bleser, Matthew Nguyen, Rena Feng, Riddhi Banerjee, Alvin Naiju, Michael McGaha

UF AI Scholar / USP Program

Akshay Ashok, Grace Cheng, Amy Lazarte, Jason Chen, Akshay Mathavan, Akash Mathavan, Maximillian Diaz, Garrett Fullerton, Gianna Sweeting

Secondary School Teachers

Christian McDonald, Edda Rivera

University Minority Mentor Program (UMMP)

Ariana Chang, Julinna Villarta, Liying Wu, Jordon Neal (African American), Joseph Wilkinson

Grad Society of Women Engineers (Grad SWE)

Adriana Del Pino Herrera (BME PhD, Hispanic), Celene Cheddie (BME MS)

Student Science Training Program (SSTP)

Srividya Vaishnavi Surampudi (now at Stanford University), Imaan Randhawa (now at UF), Aarushi Walia (now at Berkeley)

Thesis & Dissertation Committees

Ph.D. Committee Chair

1. Yao Xiao, BME, Summer 2020
2. Peng Liu, BME, Fall, 2021
3. Tianqi Liu, ECE, Spring 2024
4. Kyle B. See, BME, Summer 2024
5. Chaoyue Sun, ECE, Fall 2024 (expected)
6. Skylar E. Stolte, BME, Fall 2025 (expected)
7. Seowung Leem, BME, Summer 2026 (expected)
8. Joseph Cox, BME, Summer 2027 (expected)
9. Daniel Rodriguez, ECE, Summer 2027 (expected)

MS Committee Chair

10. Travis Koenig, Spring 2025 (expected)
11. Pratyush Shukla, Spring 2025 (expected)
12. Shen Kai, BME, Spring 2022
13. Jimmy Ossa, BME, Spring 2022
14. Shreya Verma, BME, Spring 2021
15. Bhavin Soni, BME, Spring 2021
16. Jianqiao Tian, BME, Fall 2020
17. Skylar E. Stolte, BME, Spring 2020

Honor Thesis Committee Chair

18. Garrett Fullerton, BME, Spring 2023

19. Skylar E. Stolte, BME, Spring 2019
20. Kyle B. See, BME, Spring 2019
21. Maximillian Diaz, BME, Spring 2020

Senior Design Chair

22. Retinal Disease Diagnosis using Mobile Devices, Spring 2018: Daniel El Basha, Akash Mathavan, Akshay Mathavan, Kyle See, Skylar Stolte
23. Visual Amygdala Network with Predictive Coding for Emotion Recognition, Spring 2022: Michael Quentin McGaha, Eugene Li, Jordi Bardia, Keyur Patel.

Ph.D. Dissertation Committee Member

24. Xiaoshuang Shi (Major advisor: Mingzhou Ding), Biomedical Engineering, University of Florida, Spring 2019. Hashing for Large-Scale Pathology Image Retrieval and Classification
25. Ke Bo (Major advisor: Mingzhou Ding), Biomedical Engineering, University of Florida, Fall 2020. Neural Mechanism of Affective Scene Perception.
26. Guanhong Miao (Major Advisor: Samuel Wu), Biostatistics, August 2020. Techniques for Privacy Preserving Data Collection and Analysis
27. Camilo Valdes (Major advisor: Giri Narasimhan): Large Scale Human Microbiome Analytics, Florida International University, Spring 2020
28. Sudarat Tangnimitchok (Major advisor: Armando Barreto): Non-Intrusive Affective Assessment in the Circumplex Model from Pupil Diameter and Facial Expression Monitoring, Florida International University, Spring 2020
29. Terracino Brandon (Major advisor: Walter O'Dell), Medical Sciences, University of Florida, TBD
30. Trung Tran (Major advisor: Wesley Bolch), Medical Physics, University of Florida, Summer 2021. Pediatric Radiography Dosimetry for Radiation Epidemiology.
31. Cameron Berg Kofler (Major advisor: Wesley Bolch), Medical Physics, University of Florida, Summer 2021. The Development of a Newborn, Infant, and Toddler Mesh-Based Computational Phantom Library and a Pre-Computed Monte Carlo Dose Library for Computed Tomography.
32. William Moore (Major Advisor: S. "Bala" Balachandar), Aerospace Engineering, Spring 2021: Closing the Divide between Euler-Lagrange and Particle-Resolved Force Predictions in Dispersed Multiphase Flow
33. Bhargav Sriram Siddani (Major Advisor: S. "Bala" Balachandar), Mechanical Engineering, December 2022: Data-Driven Modeling for Enhanced Euler-Lagrange Simulations of Dispersed Multiphase Flows.
34. Nicole D. Evangelista, (Major Advisor: Adam Woods), Department of Clinical and Health Psychology, College of Public Health and Health Professions, Summer 2023: Investigating The Impact of Cognitive Training And Transcranial Direct Current Stimulation on Dorsolateral Prefrontal Compensatory Scaffolding.
35. Emanuel M. Boutzoukas, (Major Advisor: Adam Woods), Department of Clinical and Health Psychology, College of Public Health and Health Professions, TBD.
36. Alejandro Albizu, (Major Advisor: Adam Woods), Department of Neuroscience, College of Medicine, Fall 2023.
37. Sabyasachi Bandyopadhyay (Major Advisor: Parisa Rashidi), Biomedical Engineering, College of Engineering, Summer 2023.
38. Jorge Xavier Santiago-Hernandez (Major Advisor: Forest Masters), Civil Engineering, College of Engineering, Summer 2023.
39. Lihan Cui (Major Advisor: Mingzhou Ding), Biomedical Engineering, College of Engineering, TBD
40. Yun Liang (Major Advisor: Mingzhou Ding), Biomedical Engineering, College of Engineering, Summer 2023.
41. Qiang Yang (Major Advisor: Mingzhou Ding), Biomedical Engineering, College of Engineering, Fall 2024.
42. Subhash Nerella (Major Advisor: Parisa Rashidi), Biomedical Engineering, College of Engineering, Fall 2023.
43. Jacob S. Salminen (Major Advisor: Dan Ferris), Biomedical Engineering, College of Engineering, TBD
44. Scott Siegel (Major Advisor: Parisa Rashidi), Biomedical Engineering, College of Engineering, Summer 2024.

45. Yongxu Zhang (Major Advisor: Shreya Saxena), Biomedical Engineering, College of Engineering, TBD
46. Changhao Xiong (Major Advisor: Mingzhou Ding), Biomedical Engineering, College of Engineering, TBD
47. Rob Chen (Major Advisor: David Vaillancourt), Biomedical Engineering, College of Engineering, TBD.
48. Jiaqing Zhang (Major Advisor: Parisa Rashidi), Electrical and Computer Engineering, College of Engineering, TBD
49. Tina Salehitorabi (Major Advisor: Kiley Graim), Computer Information Science and Engineering (CISE), College of Engineering, TBD
50. Zhimin Zong (Major Advisor: Jie Xu), Electrical and Computer Engineering, College of Engineering, TBD
51. Jared M. Baggett (Major advisor: Wesley Bolch), Medical Physics, University of Florida, TBD.
52. Hongxu Jiang (Major Advisor: Wei Shao), Electrical and Computer Engineering, TBD.
53. Fatemeh Baniasad (Major Advisor: Rachael Seidler), Health and Human Performance, Biobehavioural Science, (TBD)
54. Cameron G. Celeste (Major Advisor: Ivana Parker), Biomedical Engineering, (TBD)
55. Miguel Contreras (Major Advisor: Parisa Rashidi), Biomedical Engineering, (TBD)
56. Robert Joseph Dawson (major Advisor: Wesley Boch), Medical Sciences, (TBD)
57. Keaton August Micheal Reiners (Major Advisor: Perry Johnson), Medical Sciences, Medical Physics, (TBD)
58. Jessica Aneliza Shubin, (Major Advisor: Jada Lewis), Medical Sciences – Neuroscience, (TBD)
59. Myles Joshua Toledo Tan, (Major Advisor: Pinaki Sarder), Electrical and Computer Engineering

Master Committee Member

60. Gang Qu, Computer Science, University of Florida, Spring 2018

Media Coverage

- Brain stimulation research is included in 2024 Coalition for Academic Scientific Computation (CASC) brochure.
- Brain/bio-inspired AI, Medical Imaging section of Computer Vision News on medical AI research. <https://www.rsipvision.com/ComputerVisionNews-2023January/32/>
- Artificial Intelligence for Precision Dosing to Prevent Dementia: *ABC Local10 TV, ABC WCJB TV, Alligator, UF Health News, Ivanhoe*, July 2021.
- Our eyes may provide early warning signs of Alzheimer's and Parkinson's. *The Washington Post*, by Elizabeth Anne Brown, February 27, 2021. https://www.washingtonpost.com/health/retina-changes-in-early-alzheimers/2021/02/26/24c57bfa-6bba-11eb-9ead-673168d5b874_story.html
- Artificial intelligence for Alzheimer's and Parkinson's Disease early diagnosis from retinal imaging. *Forbes, RSNA, Yahoo, Medscape Medical News, American Journal of Medical Care, Big News Network, Diagnostics World News, SciTech Daily, Applied Radiology, The Hindu (India), EyeSmart (Australia), and Eminentra (South Africa), UF Engineering News, and 50+ International media.*
- [ACM Future of Computing Academy](#), 2017.
- Professor Uses Computer Science to Reduce Patients' Exposure to Radiation From CT Scans, [ACM TechNews](#), 2016.
- Researcher says head CT radiation dose can be reduced by 90 percent, [Healthcare Business](#), 2016.
- FIU News: Professor uses computer science to reduce patients' exposure to radiation from CT scans, 2016.
- Facial recognition software spots family resemblance, [NewScientist](#), 2012.
- Cambridge News: University of Cambridge Official News: Students from 'Cambridge of the East' take part in an exchange, 2009.

PROFESSIONAL ACTIVITIES

Journal Editorship

- Associate Editor, Medical Image Analysis (Impact Factor: 10.9), 2021-present
- Guest Editor, Current Opinion in Biomedical Engineering, Artificial Intelligence in Biomedical Engineering, 2025
- Topic Editor, Women in Brain Imaging and Stimulation, Frontiers in Human Neuroscience Journal, 2022
- Guest Editor, Computerized Medical Imaging and Graphics, Elsevier, 2015

Conference Organizing Committee and Track Chairs

- President, Women in MICCAI, the Medical Image Computing and Computer Assisted Intervention (MICCAI) Society, 2023-2025.
- Associate Editor, The Engineering in Medicine and Biology Conference, 2025
- Diversity Committee, Biomedical Engineering Society, 2024 -
- Travel Award Committee, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2024.
- Co-host, Artificial Intelligence (AI) in Biomedical Engineering (BME) Education Special Session, the Annual Meeting of Biomedical Engineering Society (BMES), October 12, 2023.
- Award Committee, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2023.
- Program Committee, Area Chair, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2021-2024.
- Oral Session Chair, Integration Beyond Imaging, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI) 2022
- Track Chair, Biomedical Imaging and Instrumentation Track, Annual Meeting of Biomedical Engineering Society (BMES), Orlando, FL. 2021.
- Session Chair, Optical Imaging I Session, Annual Meeting of Biomedical Engineering Society (BMES), Orlando, FL. 2021.
- Oral Session Chair, Image Reconstruction, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), September, 2021.
- Session Chair, Biomedical Imaging and Instrumentation Track, Deep Learning in Microstructural Imaging Session Chair, Annual Meeting of Biomedical Engineering Society (BMES), Philadelphia, PA, USA. October 16-19, 2019.
- Session Chair, Imaging Data Science, Processing Session, Modeling and Informatics Track, Image Processing and Analysis, Modeling, Data Science and Informatics Session, Annual Meeting of Biomedical Engineering Society (BMES), GA, Atlanta, USA. October 2018.
- Program Committee, 2019 KDD Workshop on Applied Data Science for Healthcare: Bridging the Gap between Data and Knowledge (DSHealth 2019), held along with KDD 2019, Anchorage, Alaska, USA. August 05, 2019.
- Session Chair, Annual Meeting of Society of Brain Mapping and Therapeutics, Los Angeles, CA. USA. April 2017.
- Program Committee Publicity Chair, IEEE International Conference on Machine Learning Applications, Miami, FL. USA. 2015.
- Co-Chair, 2nd International Workshop on Sparsity Techniques in Medical Imaging, in conjunction with International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), Boston, MA, USA. September 2014

Proposal Panelist / Ad-Hoc Reviewer

- NIH Study Section, 2018-Present, 4 study sections, reviewed 20+ proposals.
- NSF Panel, 2015-Present, 11 panels, reviewed 70+ proposals.
- Parkinson's UK, 2025-Present.
- Swiss National Science Foundation, 2023-Present.
- Wellcome Funding, United Kingdom, 2021-Present

Reviewer

1. The Lancet (IF=59.102)
2. Nature Machine Intelligence (IF=18.8)
3. Science Advances (IF=11.7)
4. IEEE Transaction on Pattern Analysis and Machine Intelligence (IF=17.730)
5. IEEE Reviews in Biomedical Engineering (IF=17.20)
6. IEEE Transaction on Neural Networks and Learning Systems (IF=11.683)
7. Journal of Information Fusion (IF=10.716)
8. Medical Image Analysis (IF=8.545)
9. Journal of Movement Disorders (IF=8.324)
10. IEEE Transaction on Medical Imaging (IF=7.861)
11. IEEE Transaction on Biomedical Engineering (IF=4.491)
12. ACM Computing Survey (IF=6.131)
13. Journal of Pattern Recognition (IF=5.898)
14. IEEE Transaction on Image Processing (IF=5.071)
15. IEEE Journal of Biomedical and Health Informatics (IF=4.217)
16. Nature Scientific Reports (IF=4.011)
17. Frontiers in Neurology (IF=3.552)
18. NeuroComputing (IF=3.317)
19. Journal of Sensors (IF=3.031)
20. Physics in Medicine and Biology (IF=3.030)
21. Plos One (IF=2.776)
22. Journal of Structural Engineering (IF=2.528)
23. IEEE Transaction on Multimedia (IF=5.452)
24. Neuroradiology (IF=2.504)
25. Journal of Visual Experiments (IF=1.530)
26. Machine Vision and Applications (IF=1.103)
27. International Conference on Medical Image Computing and Computer-Assisted Intervention (MICCAI)
28. IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
29. IEEE International Conference on Computer Vision (ICCV)

30. IEEE International Conference on Image Processing (ICIP)
31. IEEE International Symposium on Biomedical Imaging (ISBI)

Society Mentorship

- Mentor, National Academy of Inventors Global Academy Inventors Networks (GAIN).
- Mentor, AnitaB.org Global Women Technologist and Mentorship Program (mentored 8 women in the technology field globally for 3 months)
- Mentor, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2023.

University and Departmental Service

- Chair, BME Inclusive Excellence Committee, 2023-2024.
- Co-host, AI Affinity Group, Hebert Wertheim College of Engineering, University of Florida, 2023-
- Chair, BME Engagement, Outreach and Public Relations Committee, 2021-2022
- MSAIS & MSADS Curriculum Committee, Hebert Wertheim College of Engineering, 2023-
- UF Health Science Center AI Search Committee, 2020-Present
- BME Faculty Search Committee, 2019-2020
- BME Undergraduate Program Committee (UPC), 2017-Present
- BME Seminar Committee, 2017 – 2019
- BME Executive Committee, 09/2021 -

Invited Talks, Presentations, and Webinars

Stanford University, Department of Radiology, Palo Alto, CA February 2025
Title: A Tale of the Brain and AI: Multimodal Digital Twins and 3D Vision Foundation Models

Stanford University, Stanford Science Fellow Program, Palo Alto, CA February 2025
Title: Peek into the Brain through AI: Multimodal Digital Twins and 3D Vision Foundation Models

Stanford University, Department of Radiation Oncology, Palo Alto, CA January 2025
Title: Unlocking Brain Health through Multimodal Digital Twins and 3D Vision Foundation Models

UC Berkely-UC San Francisco Computational Precision Health (CPH) Seminar (virtual) January 2025
Title: Unlocking Brain Health through Multimodal Digital Twins and 3D Vision Foundation Models

University of California at Los Angeles (UCLA) BIOE Departmental Seminar Series November 2024
Title: A Tale of Two Frontiers: When Brain Meets AI: Multimodal Digital Twins and Foundation Models

Special Session on “Multimodal AI in Biomedical Data Analysis and Disease Diagnosis” October 2024
Annual Meeting of Biomedical Engineering Society, Baltimore, MD
Title: Multimodal Digital Twins to Unlock Brain Health

University of Marrakesh, Marrakesh, Morocco October 2024
Title: NeuroAI: Brain-Inspired AI and AI-Empowered Precision Brain Health

University of Tokyo and RIKEN, Tokyo, Japan May 2024

Title: Natural Intelligence-Inspired AI and AI-Empowered Brain Health

AI4Health Conference, Orlando, FL.

April 2024

Title: AI4Brain: New Frontiers of Neuroscience and Brain Health

National Academy (NASEM), Washington, DC

Exploring the Bidirectional Relationship between Artificial Intelligence and Neuroscience

March 2024

Session: The Impact of AI in Clinical and Healthcare Environment

Academy of Science, Engineering & Medicine of Florida (ASEMFL), Orlando, FL.

November 3, 2023

Title: A Tale of Two Frontiers: When Brain Meets AI – Natural Intelligence-Inspired AI and AI-Empowered Brain Health (Rising Star Talk)

3rd Annual AI Symposium at UF Health Cancer Center: Insights in Cancer Imaging

October 24, 2023

Gainesville, FL

Title: AI for Medical Image Analysis 101

University of British Columbia, Vancouver, CA

October 7, 2023

Pre-MICCAI Workshop

Title: A Tale of Two Frontiers – When Brain Meets AI

MRI Research Institute (MRIRI), Weill Cornell Medical College, Cornell University, NY

August 7, 2023

Title: Generative, Trustworthy, and Precision AI in Radiology

Nvidia Artificial Intelligence Technology Center (NVAITC)

May 2023

Title: Trustworthy AI and Large Vision Models for Neuroimages

Intelligent Critical Care Center Seminar Series, Virtual

March 16, 2023

Title: Artificial Intelligence for Cognitive Aging: Novel Diagnosis and Personalized Intervention

Neural Information Processing System (NeurIPS), New Orleans, LA

December 2, 2022

Medical Imaging meets NeurIPS workshop (Keynote Talk)

Title: A Tale of Two Frontiers – When Brain Meets AI

Stanford University, College of Medicine, Virtual

November 11, 2022

Title: Artificial Intelligence in Cognitive Aging and Brain-Inspired AI

Gordan Research Conference – Image Science, Newry, Maine, USA

June 2022

Emerging Imaging Techniques at the Intersection of Physics and Data Science

Title: From Zero to One: Physiology-Informed Deep Learning for Contrast-Free CT Perfusion in Stroke Care

Gordan Research Conference – System Aging, Newry, Maine, USA

June 2022

Systemic Processes, Omics Approaches and Biomarkers in Aging

Title: Artificial Intelligence and Machine Learning for Cognitive Aging: Novel Diagnosis and Precision Intervention

University of Florida Center for Cognitive Aging and Memory Research Day, Gainesville, FL.

May 2022

Title: Artificial Intelligence for Novel Diagnosis of Alzheimer's Disease from Retinal Imaging

University of Florida Biomedical Engineering Department Seminar Series, Virtual

April 2022

Title: Artificial Intelligence in Cognitive Aging – Novel Diagnosis and Precision Intervention

University of Oxford "Artificial Intelligence for Mental Health" seminar series, Virtual

January 2022

Title: Modular machine learning for Alzheimer's disease classification from retinal vasculatures

University of Florida Institute of Aging Seminar Series, Virtual January 2022
Title: Artificial Intelligence in Cognitive Aging – Novel Diagnosis and Precision Intervention

National Science Foundation- Cleveland Clinic Workshop on the Present and the Future of Artificial Intelligence in Biomedical Research, Virtual June 2021
Title: AI in Precision Cognitive Aging Diagnosis and Intervention

Annual Meeting of Radiology Society of North America (RSNA), Chicago, IL December 2019
Title: Multimodal CT Image Super-Resolution via Transfer Generative Adversarial Network

Annual Meeting of the American Society of Neuroradiology (ASNR), Vancouver, Canada June 2018
Title: Multi-Modality PET- MRI Image Joint Reconstruction

Annual Meeting of the American Society of Neuroradiology (ASNR), Vancouver, Canada June 2018
Title: Image Super-Resolution and Radiation Reduction via Deep Learning

Annual Meeting of the American Society of Neuroradiology (ASNR), Vancouver, Canada June 2018
Title: Regulated-convolutional Networks for Low-dose Cerebral CT Perfusion Restoration

ISMRM, Toronto, Canada June 2015
Title: 4-D Spatio-Temporal MR Perfusion Deconvolution via Tensor Total Variation

BMES, Tampa, FL. October 2015
Title: Robust Low-Dose CT Perfusion Deconvolution via Non-Local Tensor Total Variation

International Conference on Computational Advances in Bio and Medical Sciences June 2014
Title: Robust Medical Image Analysis In Assessing Disease Progression and Treatment Respons

Campus and Departmental Talks

UF Institute of Aging, Zoom January 2022
Title: "Artificial Intelligence in Cognitive Aging: Scalable and Personalized Intervention"

UF AI Town Hall, Zoom May 2021
Title: "AI in Health at UF – Medical Image Analysis"

UF HiperGator Symposium, Zoom April 2021
Title: "VCA-DNN: Neuroscience-Inspired Artificial Intelligence for Visual Emotion Recognition"

UF Informatics Institute Artificial Intelligence Seminar, Zoom March 2021
Title: "AI in Precision Brain Dynamics"

UF College of Health and Human Performance Seminar, Zoom January 2021
Title: "Artificial Intelligence in Predictive Health"

UF BMES Student Chapter Speaker Series, Gainesville, FL. April 2019
Title: "Big Biomedical Data for Tomorrow's Medicine"

UF ECE Machine Learning Workshop, Gainesville, FL January 2018
Title: "Big Biomedical Data for Tomorrow's Medicine"

UF ECE Departmental Seminar Series, Gainesville, FL. October 2017

Title: “Big Biomedical Data for Tomorrow’s Medicine”

McKnight Brain Institute, Gainesville, FL.

September 2017

Title: “Big Biomedical Data for Tomorrow’s Medicine”

FIU BME Wallace H. Coulter Foundation Lecture Series, Miami, FL

September 2015

Title: “Big Medical Data: Challenges, Opportunities, and Advances”

REFERENCES

James Duncan

Ebenezer K. Hunt Professor of Biomedical Engineering, Electrical Engineering & Radiology, and Biomedical Imaging

Yale University

james.duncan@yale.edu

Letter request to: send.Duncan.C623F3269D@interfolio.com

Dimitris N. Metaxas

Distinguished Professor

Rutgers University

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Heng Huang

Inaugural Brendan Iribe Endowed Professor in Computer Science

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Li Shen

Professor, Informatics in Biostatistics and Epidemiology

Interim Director, Division of Informatics, DBEI

University of Pennsylvania

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Lei Xing

Jacob Haimson Professor Director of the Medical Physics Division

Stanford University

lei@stanford.edu