Ruogu "Reanna" Fang MS, Ph.D.

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

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EXECUTIVE SUMMARY:

Ruogu "Reanna" 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 Smart Medical Informatics Learning and Evaluation (SMILE) Lab, Associate Director of Intelligent Critical Care Center (IC^3), 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 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 28 funded grants, among which she served as PI on 11 grants, with total funding of $40 M, and PI of $5 M. She has six issued patents and four pending. She was selected as the Inaugural recipient of the Robin Sidhu Memorial Young Scientist Award from the Society of Brain Mapping and Therapeutics and received Best Paper Award from the IEEE International Conference on Image Processing, University of Florida Herbert Wertheim College of Engineering Faculty Award for Excellence in Innovation, UF BME Faculty Research Excellence Award, among others. She has 100+ peer-reviewed publications, including highly respected journals of *Lancet Digital Health Lancet Digital Health, Medical Image Analysis, IEEE Transaction on Medical Imaging*, that are well cited (h-index = 21, I_{10}-index=32, 2300+ 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 (IC^3) aiming to transform healthcare via Medical AI 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 Medical AI researchers through education and training; (c) establishing national and international standards for multicenter data generation initiatives and the sharing of publicly available datasets and Medical AI platforms; and (d) promoting entrepreneurship, industry partnerships, and advocacy initiatives in the field of Medical AI.

Dr. Fang is passionate about educating the next generation transdisciplinary biomedical researchers from diverse background, 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 leaders in medical AI by teaching computer applications in BME, creating new cross-disciplinary graduate courses, sharing strategies for resilience and success that she developed as a woman of color in academia, and embracing diversity and inclusiveness in both her course and research programs. 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. In her own laboratory, she has mentored 13 doctoral and 20 master graduate students, and over 50 undergraduates.

Dr. Fang has enthusiastically promoted the emerging field of Medical AI while faithfully serving the profession. Dr. Fang currently serves on editorial boards for *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 in international conferences. Dr. Fang has regularly served on NIH study sections and NSF panels (8+ 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

8/16/2022 – Present Associate Professor**,** Biomedical Engineering Department, University of Florida

01/01/2023 – Present Pruitt Family Endowed Faculty Fellow in Biomedical Engineering

03/01/2022 – Present Associate Director, Intelligent Critical Care Center (IC^3), 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

- 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
- IEEE Senior Member, 2018

Internal Faculty Award

- 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 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 2022 University of Florida GPU Hackathon
- 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-Authored 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, 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

- Grace Cheng & Akshay Ashok: UF AI Scholar, 2023
- 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.
- Garrett Fullerton: Outstanding Research Award, BME Undergraduate Research Day, 2022
- Peng Liu: Best Abstract Award (Undergraduate and Graduate Level), Montreal AI & Neuroscience (MAIN) Conference, 2021
- Charlie Tran: NextProf Pathfinder, University of Michigan and University of California, San Diego, 2021
- Gianna Sweeting: John & Mittie Collins Engineering Scholarship, 2021
- Charlie Tran: Ronald E. McNair Graduate Assistantship, 2021
- Yao Xiao: BMES Career Development Award, Biomedical Engineering Society (BMES), 2020
- Yao Xiao: Graduate Student Speaker at the College of Engineering Commencement, 2020
- Peng Liu: UFII Graduate Student Fellowship, University of Florida Informatics Institute, 2020
- Gianna Sweeting: Herbert Wertheim College of Engineering Scholarship, University of Florida, 2020
- Charlie Tran: Ronald E. McNair Post-Baccalaureate Achievement Program, 2020
- Gianna Sweeting: Fernandez Family Scholar, College of Engineering, University of Florida, 2020
- Gianna Sweeting: University Scholar Program, University of Florida, 2020
- Skylar E. Stolte: Graduate School Preeminence Award (GSPA), University of Florida, 2019

- 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
- Garrett Fullerton: University Scholar Program, 2020
- Maximillian Diaz: NSF Graduate Research Fellowship Program (GRFP), 2020
- Daniel El Basha: NSF Graduate Research Fellowship Program (GRFP), 2020
- Kyle B. See: Graduate School Preeminence Award (GSPA), University of Florida, 2019
- Kyle B. See: NIH CTSI TL1 Pre-doctoral Fellowship, 2019
- Maximillian Diaz, University Scholar Program, 2019
- Yao Xiao: Richard Tapia Celebration of Diversity in Computing Conference Scholarship, Academy of Computing Machinery (ACM), 2018
- Yao Xiao, ACM/CHASE Student Travel Award, Connected Health: Applications, Systems and Engineering Technologies (CHASE), 2017
- Yao Xiao, Student Travel Award (award rate=6%), International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2017
- Akash Mathavan, University Scholar Program, 2018
- Akshay Mathavan, University Scholar Program, 2018
- 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. [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

BC2. [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.

BC3. [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)

PEER-REVIEWED JOURNAL

Highlight: Total 36 refereed journal articles, including 21 corresponding author journal papers. 7 first author, 29 journal publications after joining UF. 2 Most Cited Journal Papers in MIA[1], 1 in the Lancet Digital Health (IF=36.6), 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), 2 in Nature Scientific Reports.

J1. [Nature Comm] Garrett Fullerton*, Simon Kato*, Kyle B. See*, 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, Nature Communications, under review & revision.

[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

J2. Charlie Tran*, Kai Shen*, **Ruogu Fang**: Deep Learning Predicts Prevalent and Incident Subjects of Parkinson's Disease from UK Biobank Fundus Imaging, submitted.

J3. [Frontiers in Aging Neuroscience] Skylar E. Stolte*, Aprinda Indahlastari, Alejandro Albizu, Kyle B. See*, Adam J. Woods, **Ruogu Fang**: GRACE: Generalizable Real-time and Comprehensive Whole-Head Segmentation using Deep Neural Networks, to be submitted.

J4. [Nature SR] 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, submitted.

J5. [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

J6. [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

J7. [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

J8. [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

J9. [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

J10. [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

J11. [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 amnestic mild cognitive impairment. Frontiers in Aging Neuroscience, 21 pages, 2021. (accepted). **Featured by UF Health**

J12. [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

J13. [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)

J14. [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.**

J15. [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

J16. [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**

J17. [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

J18. [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.**

J19. [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

J20. [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.**

J21. [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

J22. [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, Qinhao 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**

J23. [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**

J24. [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 Barmpoutis, Daniel M Corcos, Ajay S Kurani, Trina Mitchell, Mieniecia 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 **Featured on the Cover of Lancet Digital Health**

J25. [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**

J26. [MIA'19] Peng Liu*, Yangjunyi Li*, Mohammad D EI 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**

J27. [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**

J28. [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

J29. [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.

J30. [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

J31. [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

J32. [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

J33. [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

J34. [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**

J35. [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**

J36. [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

J37. [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

J38. [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

J39. [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: 8.545**

J40. [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: 8.545. Top 25 Hottest Articles in Medical Image Analysis in 2013 April-June**

Peer-Reviewed Conference/Workshop Publications

Highlight: Total 75 conference publications, including 28 referred proceedings, 17 first author papers and 60 senior author papers (underlined), 13 in MICCAI (leading conference in Medical Image Analysis), 3 RSNA, 1 Best Paper Award, 1 Best Abstract Award, 1 Presential Trainee Award, 1 Early Career Scientist Award, 4 Travel Awards, 1 NSF REU Best Poster Award

C1. [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.

C2. [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.

C3. [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.

C4. [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.

C5. [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%) (9 pages)

C6. [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)

C7. [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)

C8. [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)

C9. [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.

C10. [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.

C11. [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.

C12. [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.

C13. [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.

C14. [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.

C15. [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.**

C16. [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.

C17. [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.

C18. [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**

C19. [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.

C20. [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)

C21. [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)

C22. [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)

C23. [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.

C24. [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.)

C25. [RSNA'19] Yao Xiao*, Manual 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)

C26. [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%)

C27. [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%)

C28. [BMES'19] Yao Xiao*, **Ruogu Fang**: Multimodal CT Image Super-Resolution via Transfer-GAN, in *Biomedical Engineering Society Annual Meeting*, October 2019, Philadelphia, PA.

C29. [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.

C30. [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.

C31. [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.

C32. [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.

C33. [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.

C34. [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.

C35. [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)

C36. [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.

C37. [BMES'18] Skylar Stolte*, Yao Xiao*, **Ruogu Fang**: Multi-Modality Brain Image Co-Registration, in *Biomedical Engineering Society Annual* Meeting, Atlanta, GA, October 2018.

C38. [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.

C39. [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**

C40. [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)

C41. [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)

C42. [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)

C43. [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.

C44. [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**

C45. [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.

C46. [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)

C47. [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.

C48. [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**)

C49. [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.

C50. [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)

C51. [BMES'16a] Anuradha Godavarty, Rebecca Kwasinki, 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.

C52. [ISBI'16c] **Ruogu Fang**, Xing Pang*, Arash Dadkhah, Jiali Lei, Elizabeth Solis, Suset Rodriguesz, 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.

C53. [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%)

C54. [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.

C55. [OSA'16] Xing Pang*, Arash Dadkhah, Jaili 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.

C56. [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.

C57. [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.

C58. [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.

C59. [MICCAI'15] Ruoyu Li, Yeqing Li, **Ruogu Fang**, Shaoting Zhang, Junzhou Huang: Fast Precon- ditioning 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%)

C60. [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.

C61. [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.

C62. [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).

C63. [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%

C64. [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.

C65. [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**

C66. [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.

C67. [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.

C68. [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)

C69. [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)

C70. [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%**

C71. [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)

C72. [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)

C73. [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**

C74. [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).

C75. [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 Reconstructing Realistic Noisy Medical Images. Inventors: **Ruogu Fang** and Peng Liu. WO 2021/202170 A1. International patent. Published on Oct. 7, 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, Alexjandro Albizu, **Ruogu Fang**, Aprinda Indahlastari. International patent published on Feb. 3, 2022. WO 2022/026573 A1.

P7. CFEA: Collaborative Feature Ensembling Adaptation For Domain Adaptation In Unsupervised Optic Disc and Cup Segmentation. Inventor(s): Peng LIU and **Ruogu Fang**. Ref No.: T18094US001 (222107-8940) U.S. Provisional Patent Application Serial No. 63/001,771, filed March 30, 2020.

P8. Machine Learning For Predicting Parkinson's Disease Based On Retinal Fundus Images. Inventor(s): **Ruogu Fang**, Max Diaz. U.S. Patent Recorded on 12/22/2021.

P9. Prediction of Functional Motor Tasks with Dynamic Supervoxel Parcellations. Inventor(s): **Ruogu Fang**, Kyle See, Steven Coombes. Provisional patent pending.

P10. System and Methods for Predicting Perfusion Images from Non-Contrast Scans. Inventor(s): Ruogu Fang, Garrett Fullerton, Simon Kato. Provisional patent pending.

GRANTS & AWARDS

Awarded Summary (2014-2021)	
Number of Grants/Awards:	28
Total Amount:	$ 41.7 M
Total Since Joining UF:	$ 40.0 M
PI Amount:	$ 4.8 M
Faculty Share:	$ 2.6 M

FEDERAL GRANTS

G1. NIH NIA, RF1AG071469[2], **MPI (Fang, 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, IIS-1908299, **PI, $642,000 (Fang: $615,619),** 2019-2022. "III: Small: Modeling Multi-Level Connectivity of Brain Dynamics" + REU Supplement.

G3. NSF, IIS-1564892, **Single PI, $190,991 (Fang: $190,991),** 2016-2018. "CRII: SCH: Characterizing, Modeling and Evaluating Brain Dynamics".

G4. 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).

G5. NSF, IIS, **Co-PI, $840,000 (Fang: $301,176, Total $1.2M),** 2021-2025. "Collaborative Research: SCH: Trustworthy and Explainable AI for Neurodegenerative Diseases".

G6. 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".

G7. NIH NIAID, P01AI165380, **Co-I** (PI: Gayle E. Woloschak, Northwestern University), **$10.7M ($1.95M to UF).** 2022-2027. "P01: Multi-Scale Evaluation and Mitigation of Toxicities Following Internal Radionuclide Contamination".

G8. 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".

G9. 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".

G10. 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".

G11. 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".

[2] R01 equivalent with multi-year funds allocated at one time

G12. NIH NINDS, U01NS119562, **Co-Investigator** (PI: David Vaillancourt), **$5,264,645 (Fang: $69,973),** 2021-2026. "Web-based Automated Imaging Differentiation of Parkinsonism."

G13. NSF, CNS 1747783, **Co-Investigator** (PI: Jose Principe), **$900,478,** 2018-2022. "Phase I IUCRC University of Florida: Center for Big Learning"

G14. 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"

G15. 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"

G16. 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"

G17. 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

G18. 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,

G19. UFII-CTSI Pilot Award, **PI, $75,000 (Fang: $750,000**), 2018-2019. "Precision Dose: Personalized Radiation Dose Optimization for Multimodal Imaging", University of Florida.

G20. 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.

G21. 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.

G22. 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.

G23. 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".

G24. 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

G25. NVIDIA Corporation**, PI,** Deep Learning GPU Equipment. 2016
G26. Oracle Research Award, **PI,** $100K, Cloud credit, 2022.

MENTEE GRANTS

G27. UF Informatics Institute, **Mentor (Mentee: Peng Liu), $11,616,** 2020-2021. "Biology and Cognition Inspired Deep Learning", University of Florida.
G28. 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

TEACHING

University of Florida, BME Department, Gainesville, FL

Instructor

- 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'19, 21
- 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.

MENTORING

Current Ph.D. Students

P1. Kyle B. See: 08/2019 - 05/2023 (expected) (NIH TL1 Fellow, Graduate School Preeminence Award)

P2. Skylar E. Stolte (Female): 08/2020 - 05/2024 (expected) (Graduate School Preeminence Award)

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

P4. Ziqian Huang (female): 08/2022-08/2026 (expected)

P5. Joseph Cox: 08/2022-08/2026 (expected)

P6. Chaoyue Sun: 08/2020-08/2024 (expected)

P7. Tianqi Liu: 08/2020-05/2024 (expected)

Ph.D. Alumni

P9. Yao Xiao (Female): Graduated in Summer 2020.

- BMES Career Development Awardee, 2020.
- Commencement Student Speaker, University of Florida, College of Engineering, 2020.
- Current Position: Senior Data Analyst, Mayo Clinic.

P10. Peng Liu: 05/2016-12/2021

- UF Informatics Institute Fellowship
- Montreal AI & Neuroscience Conference Best Paper Award

Current Master Students

M1. Everett J. Schwieg, 08/2022-present

M2. Fan Yang, 08/2022-present

M3. Jimmy Ossa, BME, 05/2021-present

M4. Kai Shen, BME, 05/2021-present

M5. Ayesha Naikodi, 05/2022-present

Master's Alumni

M6. Haodi Jiang, CISE, 2014-2015, now Ph.D. student at New Jersey Institute of Technology.

M7. Jingan Qu, CISE, 2015-2017.Daniel Parra, CISE, 2015-2016.

M8. Daniel Parra, CISE, 2015-2016.

M9. Micheal Adeyosoye (African American): CISE, 2016-2017, Bridge to Ph.D. Fellowship.

M10. Skylar E. Stolte. BME, 2019-2020. Continue as a Ph.D. student in my lab.

M11. Jianqiao Tian: 08/2018-12/2020

M12. Shreya Verma (Female), BME, 03/2020 – 05/2021

M13. Bhavin Soni, BME, 08/2019 - 05/2021

M14. Jiaqing Zhang, ECE, 03/2022-08/2022

M15. Ziqian Huang, ECE, 03/2022-08/2022 (converted to Ph.D. in my lab)

Current Undergrad

Thomas Howland, Justin Broce, Yiru Mu, Alvin Naiju, Jordi Bardia, Brian John Braddock, Kevin Liu, Hely Lin, Ethan Smith,

NSF Research Experience for Undergraduates (REU) Mentee

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

Past Undergrad

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, Nathan Barkdull, 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.

UF AI Scholar

Akshay Ashok, Grace Cheng

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. Kyle B. See, BME, Summer 2024 (expected)
4. Skylar E. Stolte, BME, Summer 2024 (expected)
5. Tianqi Liu, ECE, Spring 2024 (expected)
6. Seowung Leem, BME, Summer 2025 (expected)
7. Chaoyue Sun, ECE, Summer 2024 (expected)
8. Ziqian Huang, ECE, Summer 2026 (expected)
9. Joseph Cox, BME, Summer 2026 (expected)

MS Committee Chair

10. Shen Kai, BME, Spring 2022
11. Jimmy Ossa, BME, Spring 2022
12. Shreya Verma, BME, Spring 2021
13. Bhavin Soni, BME, Spring 2021
14. Jianqiao Tian, BME, Fall 2020
15. Skylar E. Stolte, BME, Spring 2020

Honor Thesis Committee Chair

16. Skylar E. Stolte, BME, Spring 2019
17. Kyle B. See, BME, Spring 2019
18. Maximillian Diaz, BME, Spring 2020

Senior Design Chair

19. Retinal Disease Diagnosis using Mobile Devices, Spring 2018: Daniel El Basha, Akash Mathavan, Akshay Mathavan, Kyle See, Skylar Stolte
20. 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

21. Xiaoshuang Shi (Major advisor: Mingzhou Ding), Biomedical Engineering, University of Florida, Spring 2019. Hashing for Large-Scale Pathology Image Retrieval and Classification
22. Ke Bo (Major advisor: Mingzhou Ding), Biomedical Engineering, University of Florida, Fall 2020. Neural Mechanism of Affective Scene Perception.
23. Guanhong Miao (Major Advisor: Samuel Wu), Biostatistics, August 2020. Techniques for Privacy Preserving Data Collection and Analysis
24. Camilo Valdes (Major advisor: Giri Narasimhan): Large Scale Human Microbiome Analytics, Florida International University, Spring 2020
25. 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
26. Terracino Brandon (Major advisor: Walter O'Dell), Medical Sciences, University of Florida, TBD

27. Trung Tran (Major advisor: Wesley Bolch), Medical Physics, University of Florida, Summer 2021. Pediatric Radiography Dosimetry for Radiation Epidemiology.
28. 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.
29. 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
30. Bhargav Sriram Siddani (Major Advisor: S. "Bala" Balachandar), Mechanical Engineering, December 2022: Data-Driven Modeling For Enhanced Euler-Lagrange Simulations Of Dispersed Multiphase Flows.
31. Nicole D. Evangelista, (Major Advisor: Adam Woods), Department of Clinical and Health Psychology, College of Public Health and Health Professions, TBD.
32. Emanuel M. Boutzoukas, (Major Advisor: Adam Woods), Department of Clinical and Health Psychology, College of Public Health and Health Professions, TBD.
33. Alejandro Albizu, (Major Advisor: Adam Woods), Department of Neuroscience, College of Medicine, TBD.
34. Sabyasachi Bandyopadhyay (Major Advisor: Parisa Rashidi), Biomedical Engineering, College of Engineering, TBD.
35. Santiago-Hernandez,Jorge Xavier (Major Advisor: Forest Masters), Civil Engineering, College of Engineering, TBD.
36. Lihan Cui (Major Advisor: Mingzhou Ding), Biomedical Engineering, College of Engineering, TBD
37. Yun Liang (Major Advisor: Mingzhou Ding), Biomedical Engineering, College of Engineering, TBD
38. Qiang Yang (Major Advisor: Mingzhou Ding), Biomedical Engineering, College of Engineering, TBD
39. Subhash Nerella (Major Advisor: Parisa Rashidi), Biomedical Engineering, College of Engineering, TBD
40. Jacob S. Salminen (Major Advisor: Dan Ferris), Biomedical Engineering, College of Engineering, TBD
41. Scott Siegel (Major Advisor: Parisa Rashidi), Biomedical Engineering, College of Engineering, TBD
42. Yongxu Zhang (Major Advisor: Shreya Saxena), Biomedical Engineering, College of Engineering, TBD
43. Changhao Xiong (Major Advisor: Mingzhou Ding), Biomedical Engineering, College of Engineering, TBD
44. Minh Nhat Vu (Major Advisor: My Thai), Computer Information and Science and Engineering, College of Engineering, TBD.

Master Committee Member

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

Media Coverage

- 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/retiina-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 Eminetra (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: 8.545), 2021-present
- 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

- Area Chair, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), 2021-2023.
- 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 65 proposals.

Reviewer

1. The Lancet (IF=59.102)

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

University and Departmental Service

- Chair, BME Engagement, Outreach and Public Relations Committee, 2021-2022
- 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

Intelligent Critical Care Center Seminar Series, Virtual March 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
Title: A Table of Two Frontiers – When Brain Meets AI

Stanford University, College of Medicine, Virtual November 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 American (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
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