CURRICULUM VITAE

Contact Information

Name	Yanting Yang
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Education

Jan 2024 – Current	Ph.D., Electrical and Computer Engineering University of British Columbia, Vancouver, Canada Supervisor: Dr. Xiaoxiao Li
Jul 2021 – Dec 2022	M.S., Biomedical Engineering, GPA: 4.0/4.0 Columbia University, New York, US
Sep 2017 – Jun 2021	B.E., Nuclear Engineering and Technology, GPA: 3.24/4.0 Fudan University, Shanghai, China Thesis title: Construction of Task Management and Scheduling System for Nuclear Physics High Performance Computing Cluster at Fudan University

Honors & Awards

2020	Outstanding Student Award Fudan University, Shanghai, China
2019	Outstanding Student Award Fudan University, Shanghai, China

Publications

Articles

1. Zhang, J., Rao, V.M., Tian, Y., **Yang, Y.**, Acosta, N., Wan, Z., Lee, P.Y., Zhang, C., Kegeles, L.S., Small, S.A. and Guo, J., 2023. Detecting schizophrenia with 3D structural brain MRI using deep learning. *Scientific Reports*. https://doi.org/10.1038/s41598-023-41359-z
2. Ma, D.J., **Yang, Y.**, Harguindeguy, N., Tian, Y., Small, S.A., Liu, F., Rothman, D.L. and Guo, J., 2022. Magnetic Resonance Spectroscopy Spectral Registration Using Deep Learning. *Journal of Magnetic Resonance Imaging*. https://doi.org/10.1002/jmri.28868

Preprint

1. **Yang, Y.**, Tian, J.S., Dagommer, M. and Guo, J., 2023. Deep Learning-based MRI Reconstruction with Artificial Fourier Transform (AFT)-Net. *arXiv*. https://doi.org/10.48550/arXiv.2312.10892
2. Lee, P.Y., Wei, H.J., Pouliopoulos, A.N., Forsyth, B.T., **Yang, Y.**, Zhang, C., Laine, A.F., Konofagou, E.E., Wu, C.C. and Guo, J., 2023. Deep Learning Enables Reduced Gadolinium Dose for Contrast-Enhanced Blood-Brain Barrier Opening. *arXiv*. https://doi.org/10.48550/arXiv.2301.07248

Presentations

Conference Presentation

1. **Yang, Y.**, Laine, A.F. and Guo, J., 2023. Deep Learning-Based MRI Reconstruction With Artificial Fourier Transform(AFT)-Net. *ISMRM & ISMRT Annual Meeting & Exhibition*, Toronto, ON, Canada, 03-08 June 2023.
2. Zhang, C., Morgan, M., **Yang, Y.**, Tian, Y. and Guo, J., 2023. Constructing Age-Specific MRI Brain Templates Based On A Uniform Healthy Population Across Life Span With Transformer. *ISMRM & ISMRT Annual Meeting & Exhibition*, Toronto, ON, Canada, 03-08 June 2023.
3. Zhang, C., Morgan, M., **Yang, Y.**, Tian, Y. and Guo, J., 2023. Cycle Inverse Consistent Deformable Medical Image Registration With Transfomer. *ISMRM & ISMRT Annual Meeting & Exhibition*, Toronto, ON, Canada, 03-08 June 2023.
4. Xin, Z., Rao, V.M., Liu, D., **Yang, Y.**, Tian, Y., Zhang, C., Laine, A.F. and Guo, J., 2023. Synthesizing CT Image From Single-Echo UTE-MRI Using Multi-Task Framework. *ISMRM & ISMRT Annual Meeting & Exhibition*, Toronto, ON, Canada, 03-08 June 2023.
5. Ma, D.J., **Yang, Y.**, Harguindeguy, N., Tian, Y., Small, S.A., Liu, F., Rothman, D.L. and Guo, J., 2023. Magnetic Resonance Spectroscopy Spectral Registration With Unsupervised Deep Learning. *ISMRM & ISMRT Annual Meeting & Exhibition*, Toronto, ON, Canada, 03-08 June 2023.

Workshop

1. **Yang, Y.**, 2023. Deep Learning-based MRS Reconstruction and Denoising with Artificial Fourier Transform Network (AFT-Net). *7th Annual INSPECTOR Workshop*, New York, NY, US, November 17, 2023. https://juchem.bme.columbia.edu/content/7th-annual-inspector-workshop

Patents & Inventions

1. Title: Deep Learning-based MRI Reconstruction with Artificial Fourier Transform (AFT)-Net
   U.S. Provisional Patent Application No. 63/462,698
   Filed: April 28, 2023

Research Experience

Jun 2022 – Dec 2023 SAIL Lab, Zuckerman Institute, Columbia University, New York, US

- Conducted in-vivo mouse brain MRI scanning at 9.4T using Bruker Biospec 94/30 and ParaVision 6.0.1.
- Created a deep learning model that reconstructs and processes the MRI/S raw data in the sensor domain.
- Investigated the generality and robustness of the deep learning model with an extensive study on multi-field, multi-contrast, multi-site, multi-species datasets.

Nov 2017 – Dec 2018 Institute of Modern Physics, Fudan University, Shanghai, China

- Employed Field Precision to conduct numerical simulation on the structure of SH-HtscEBIT and the trajectory of the electron and ion beam under different parameters and optimized the parameters and structures according to the calculated trajectories.
- Designed the bracket of the crystal spectrometer with the 3D modelling software SolidWorks.

Work Experience

Jan 2019 – Feb 2019 Shanghai Research Institute of Materials, Shanghai, China

- Learned about the properties and uses of nuclear power self-lubricating graphite and a special cast iron alloy.
- Observed the material test of nuclear power self-lubricating graphite and a special cast iron alloy.
- Familiarized with the inspection, performance indicators and uses of the anti-friction plates for the third-generation nuclear power reactor pressure vessel and the PH02 pipeline supports and hangers.

Skills

Programming Languages	Python, MATLAB, Shell, JavaScript, C
Packages & Tools	PyTorch, Linux, TensorFlow, LaTeX
Software	ParaVision 6.0.1, SolidWorks

Services

Jun 2022 – Aug 2022 BRAINYAC Mentoring Program

- Designed a basic deep learning curriculum and study plan for secondary school students.
- Instructed students to design and implement the CNN framework for schizophrenia diagnosis with human brain sMRI.

Sep 2017 – Jun 2019 Deputy Director of the Secretariat in Xide College Student Committee, Fudan University, Shanghai, China

Sep 2018 – Dec 2018 Teaching Assistant at Yangpu Teacher Training College Affiliated Middle School, Shanghai, China

References

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