

Pengfei Guo

5975 Pimlico Rd., Baltimore, MD 21209

Work: 517-802-0216 | Email: pguo4@jhu.edu | [Google Scholar](#), [LinkedIn](#)

EDUCATION

Johns Hopkins University, Baltimore, MD

Jan 2020-present

Doctor of Philosophy in Computer Science

Johns Hopkins University, Baltimore, MD

Aug 2018-Dec 2019

Master of Science in Computer Science

Michigan State University, East Lansing, MI

Aug 2015-May 2018

Bachelor of Science in Computational Mathematics (With Honors)

CONFERENCE PUBLICATION

1. **P. Guo**, P. Wang, J. Zhou, V. M. Patel, and S. Jiang, "Lesion Mask-based Simultaneous Synthesis of Anatomic and Molecular MR Images using a GAN," *Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Lima, Peru, 2020.
2. P. Wang, **P. Guo**, J. Lu, J. Zhou, S. Jiang, and V. M. Patel, "Improving Amide Proton Transfer-weighted MRI Reconstruction using T2-weighted Images," *Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Lima, Peru, 2020.
3. H. Chen*, **P. Guo***, P. Li, G. H. Lee and G. Chirikjian, "Multi-person 3D Pose Estimation in Crowded Scenes Based on Multi-View Geometry," *Proceedings of the European Conference on Computer Vision (ECCV)*, Glasgow, Scotland, 2020. (Spotlight)
4. **P. Guo**, P. Wang, J. Zhou, S. Jiang, and V. M. Patel, "Multi-institutional collaborations for improving deep learning-based magnetic resonance image reconstruction using federated learning," *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, Virtual Conference, 2021
5. **P. Guo**, J. M. Jose, P. Wang, J. Zhou, S. Jiang, and V. M. Patel, "Over-and-under complete convolutional RNN for MRI reconstruction", *International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI)*, Strasburg, France, 2021
6. A. Xu, W. Li, **P. Guo**, H. Roth, A. Hatamizadeh, C. Zhao, D. Xu, H. Huang, and Z. Xu, "Closing the Generalization Gap of Cross-silo Federated Medical Image Segmentation," *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, New Orleans, Louisiana, 2022
7. Y. Mei,* **P. Guo***, and V. M. Patel, "Escaping Data Scarcity for High-Resolution Heterogeneous Face Hallucination," *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, New Orleans, Louisiana, 2022

JOURNAL PUBLICATION

1. **P. Guo**, D. Li, and X. D. Li, "Deep OCT image compression with convolutional neural networks," *Biomedical Optics Express* 11 (7), 3543-3554, 2020.
2. **P. Guo**, P. Wang, J. Zhou, V. M. Patel, and S. Jiang, "Anatomic and Molecular MR Image Synthesis Using Confidence Guided CNNs," *IEEE Transactions on Medical Imaging (TMI)*, 2020.

PROFESSIONAL EXPERIENCE

AI-Infra of NVIDIA, MD

May 2021-Aug 2021

Applied Research Intern, Medical Imaging

- ◆ Coordinated a project on medical image process assisted by federated learning-based methods.
- ◆ Developed a reinforcement learning-based method that can conduct automatic hyperparameters tuning at clients and server sides under federated learning setting to improve the medical image segmentation performance.

Division of MR Research, Johns Hopkins Medicine, Baltimore, MD

May 2019-present

Research Assistant

- ◆ Coordinated various deep learning projects for clinical problems on **PyTorch** platform.
- ◆ Implemented and finetuned various 3D classification architectures trained on both of structural and advanced functional MRI sequences (i.e. Amide Proton Transfer-weighted MRI).

TECHNICAL SKILLS

- ◆ Programming Languages: Python, Matlab, C++
- ◆ Softwares and Tools: PyTorch, TensorFlow, Cassandra, LaTeX