Claire Hong (née Lin)

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Education

Ph.D., Applied and Interdisciplinary Mathematics, University of Michigan, 2016 - 2021
Advisors: Jeffrey A. Fessler and Anna C. Gilbert. Thesis: *Efficient Model-Based Reconstruction for Dynamic MRI*.

B.S., Applied Mathematics (*summa cum laude*), Emory University, 2012 - 2016
Advisor: Lars Ruthotto. Thesis: *Line-to-Point Registration with Applications in Geometric Reconstruction of Coronary Stents*.

Expertise

Areas: algorithms, computational models and simulations, machine learning, image and signal processing

Skills: C/C++ | Python | MATLAB | LaTeX| HTML | Linux | Git | Jenkins | Tensorflow | OpenCV

Positions

Algorithm Engineer, Reticle and Photomask Inspection Division, KLA, Milpitas, CA, 2021 – 2023

+ *Developed novel solutions for the latest semiconductor inspection challenges.*
+ *Engaged with cross-functional groups to deliver valuable features to customers.*

Research Intern, Center for Devices and Radiological Health, FDA, Silver Spring, MD, Summer 2019

+ *Constructed neural networks for Computed Tomography imaging problems.*
+ *Analyzed generalizability of deep learning performance for regulatory evaluation.*

Graduate Researcher, Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI, 2016 – 2021

+ *Established physical models to capture medical image properties and correct for artifacts.*
+ *Explored optimization algorithms for fast and high-resolution medical image reconstruction.*

Undergraduate Researcher, National Institute for Mathematical and Biological Synthesis, Knoxville, TN, Summer 2015

+ *Built computational models to describe blood pressure and fluid pressure in the kidney.*
+ *Performed Monte Carlo analysis on model behavior under various parameter settings.*

Journal Publications

R. Zeng, C. Y. Lin, Q. Li, L. Jiang, M. Skopec, J. A. Fessler, and K. J. Myers, **Performance of a Deep Learning-based CT Image Denoising Method: Generalizability over Dose, Reconstruction Kernel, and Slice Thickness**, *Medical Physics*, 49.2 (2021), 836–853.

C. Y. Lin and J. A. Fessler, **Efficient Regularized Field Map Estimation in 3D Parallel MRI**, *IEEE Transactions on Computational Imaging*, 6 (2020), 1451–1458.

C. Y. Lin and J. A. Fessler, **Efficient Dynamic Parallel MRI Reconstruction for the Low-Rank Plus Sparse Model**, *IEEE Transactions on Computational Imaging*, 5.1 (2019), 17–26.

C. Y. Lin, A. Veneziani, and L. Ruthotto, **Numerical Methods for Polyline-to-Point-Cloud Registration with Applications to Patient-Specific Stent Reconstruction**, *International Journal for Numerical Methods in Biomedical Engineering*, 34.3 (2018).

M. Bedell, C. Y. Lin, E. Roman-Melendez, and I. Sgouralis, **Global Sensitivity Analysis in a Mathematical Model of the Renal Interstitium**, *Involve, a Journal of Mathematics*, 10.4 (2017), 625–649.

Honors

Michigan Institute for Computational Discovery and Engineering Fellow, University of Michigan, 2017

Trevor Evans Award in Mathematics and Computer Science, Emory University, 2016