HAOZHU WANG

:Personal Website :haozhuwang1993@gmail.com

EMPLOYMENT

Amazon ML Solutions Lab March 2022 - Now

· Research Scientist, Reinforcement Learning Vertical Lead

3M Health Information Systems Jan 2022 - Mar 2022

· ML Research Scientist

3M Corporate Research System Lab June 2021 - Nov 2021

· AI Research Intern

EDUCATION

Ph.D. in Electrical & Computer Engineering (Machine Learning Track) Apr 2016 - Dec 2021
University of Michigan, Ann Arbor, MI

· Advisor: Prof. L. Jay Guo
· Research focus: reinforcement learning, AI for science, machine learning for healthcare. GPA: 3.95/4.00.
· Dissertation: *Learning to Optimize: Applications in Physical Designs and Manufacturing*

B.Eng. in Electrical Engineering Aug 2011 - July 2015
Tianjin University & Nankai University, Tianjin, China

· GPA: 3.90/4.00.
· National Scholarship (1 in 65).

Visiting Student Jan 2015 - Jun 2015
MIT, Cambridge, MA

· Host: Prof. Karl K. Berggren
· Visiting student in Quantum Nanostructures and Nanofabrication Group.

PUBLICATIONS

:Google Scholar

Ötleş, Erkin, Jon Seymour, **Haozhu Wang**, and Brian T. Denton. "Dynamic prediction of work status for workers with occupational injuries: assessing the value of longitudinal observations." Journal of the American Medical Informatics Association, 2022.

Haozhu Wang, L. Jay Guo. Neutron: Neural Particle Swarm Optimization for Material-Aware Inverse Design of Structural Color. *iScience*, 2022.

Taigao Ma, Mustafa Tobah, **Haozhu Wang***, L. Jay Guo*. Benchmarking deep learning-based models on nanophotonic inverse design problems. Opto-Electronic Science, 2022. (*: correspondence)

Hanfa Song, **Haozhu Wang**, and Vien Van. An Analytical Method for Evaluating the Robustness of Photonic Integrated Circuits. *Journal of Lightwave Technology*, 2022.

Haozhu Wang , Zeyu Zheng, Chengang Ji, L. Jay Guo. Automated Optical Multi-layer Design via Deep Reinforcement Learning. *Machine Learning: Science and Technology*, 2021.

Erkin Otles, **Haozhu Wang**, Suyanpeng Zhang, Brian Denton, Jon Seymour, Jenna Wiens. Return to Work After Injury: A Sequential Prediction & Prescription Problem. *Machine Learning for Healthcare (Clinical Abstract)*, 2019.

Dejiao Zhang*, **Haozhu Wang***, Mario A.T.Figueiredo, Laura Balzano. Learning to Share: Simultaneous Parameter Tying and Sparsification in Deep Learning, *International Conference on Learning Representations* (ICLR), 2018. (*: co-first author)

Jiaxuan Wang, Jeeheh Oh, **Haozhu Wang**, Jenna Wiens. Learning Credible Models. *Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining,* 2018.

Zhao, Qing-Yuan, Di Zhu, Niccolò Calandri, Andrew E. Dane, Adam N. McCaughan, Francesco Bellei, **Hao-Zhu Wang**, Daniel F. Santavicca, and Karl K. Berggren. "Single-photon Imager Based on a Superconducting Nanowire Delay Dine." *Nature Photonics* 11, no. 4 (2017): 247-251.

Wenqi Zhu, Ting Xu, **Haozhu Wang**, Cheng Zhang, Agrawal Amit, Deotare Parag, Henri Lezec. "Surface-Plasmon-Polariton Laser based on a Metallic Trench Fabry-Perot Resonator", *Science Advances* (2017).

Wang Haozhu, Yang Fenghe, Yang Fan, Nie Meitong, Yang Jianjun. Investigation of Femtosecond-Laser Induced Periodic Surface Structure on Molybdenum. *Chinese Journal of Lasers*, 42(1), 0103001 (2015).

SKILLS

Programming Languages: Python, C++, Java, MATLAB, Julia, R

Frameworks & Others: PyTorch, TensorFlow, Keras, Linux, Bash, SQL, Hadoop, Google Cloud Platform, AWS

AWARDS

Rackham Graduate Research Grant ($3000), University of Michigan, 2020

Rackham Graduate Travel Grant ($1200), University of Michigan, 2018

Outstanding Graduate Award, Tianjin University, 2015

National Scholarship, Chinese Ministry of Education, 2014

Kitano Foundation of Lifelong Integrated Education Scholarship, Nankai University, 2013

Grand Prize of Physics Competition for College Students, Tianjin, 2013

First Tier Scholarship, Nankai University, 2012

SERVICE

Conference reviewer: ICML'22, ICLR'22-23, NeurIPS'20-22, AutoML-Conf'22, MLHC'18-22, AMIA'20-22, NeurIPS'20-22 Meta-learning Workshop, NeurIPS'21-22 Machine Learning and Physical Science Workshop, ICML'22 Pre-training Workshop
Journal reviewer: Journal of Physics Communications, AIP Advances

TEACHING AND MENTORING

Mentored two Amazon Applied Scientists Interns, 2022

EECS 442 Introduction to Computer Vision, Fall 2020

EECS 504 Computer Vision, Winter 2020

EECS 545 Machine Learning, Fall 2017

Multidisciplinary Design Program, College of Engineering, Univeristy of Michigan, 2020 - 2021