

# HAOZHU WANG

1126 McIntyre St, Ann Arbor, MI  
617-380-9471  $\diamond$  hzwang@umich.edu

## EDUCATION

---

### University of Michigan

Ann Arbor, MI

- Ph.D. student in Electrical and Computer Engineering. GPA: 3.96/4.00.
- Area of interests: reinforcement learning, causal inference, deep generative models, deep neural network compression, optical deep neural networks
- Research advisor: Prof. Jenna Wiens

### Nankai University and Tianjin University

Tianjin, China

- B.Eng in Electrical Engineering. GPA: 3.92/4.00. Ranked 2nd out of 65.

## PROFESSIONAL EXPERIENCE

---

### University of Michigan

Sep 2017 - Dec 2017

- Graduate student instructor of EECS 545 Machine Learning.

### Massachusetts Institute of Technology: Visiting Student

Jan 2015 - Jun 2015

- Developed a single photon imager with superconducting nanowire single photon detector.

## AI & DATA SCIENCE PROJECTS

---

### Medical Decision Support

*University of Michigan*

*Professor Jenna Wiens*

- Developed a deep latent variable model for treatment effect estimation.
- Cleaned and analyzed medical claim data.
- Built prediction models trained on medical claim data.

### Deep Neural Network Compression

*University of Michigan*

*Professor Laura Balzano*

- Implemented ordered weighted  $\ell_1$  (OWL) and group OWL (GrOWL) regularized deep neural networks in Tensorflow.
- Investigated sparsity inducing and correlation discovering properties of GrOWL for both convolutional layers and fully connected layers of deep neural network.
- Successfully compressed LeNet-5 and VGG-16 for more than 10 times.
- Paper published in ICLR 2018.

### Three Modules for Pharmaceutical Industry

*University of Michigan*

May 2017 - Aug 2017

*Professor Steve Salant*

- Collaborated with Professor Salant to formulate models based on game theory and probability theory to describe pharmaceutical industry.
- Sped up the simulation program written by previous developers in Matlab for more than 100X
- Thorough examined code written by previous developers and fixed multiple bugs

## PUBLICATIONS

---

Haozhu Wang, Jenna Wiens. Context-Aware Risk Stratification. (Submitted to AMIA 2019 Annual Summit)

(Co-first author) 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 2018.

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. ACM, 2018.

Zhao, Qing-Yuan, Di Zhu, Niccol 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, accepted by *Science Advances* (2017).

Che-Hsuan Cheng, **Haozhu Wang**, Zidong Li, Parag Deotare. Highly Sensitive Photodetectors Based on Inorganic and Organic Heterostructure, submitted to *IEEE Photonic Conference* (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).

## AWARDS

---

**Rackham Conference Travel Grant Award**, 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

**Outstanding High School Students**, Sichuan Provincial Department of Education, China, 2011

**National First Prize in Applied Physics Competition for Middle School Students**, Chinese Ministry of Education, 2008

## SKILLS

---

**Programming Languages:** Python, Matlab, C/C++, R, Julia, SQL

**Deep Learning Frameworks:** Pytorch, Tensorflow, Keras, Pyro

**Data Managing:** Pandas, PostgreSQL

**Others:** Linux, Bash

**Expertise:** Deep Learning, Health Data Analytics, Causal Inference