

ZIFENG WANG

805 Columbus Ave, Boston, MA 02120

✉ zifengwang@ece.neu.edu 🌐 kingspencer.github.io ☎ (857) 869-4013

EDUCATION

Northeastern University

Boston, MA

PhD Candidate in Computer Engineering, GPA: 4.0 / 4.0

Sep 2018 – May 2023 (expected)

- With a focus on Machine Learning and its applications.

Tsinghua University

Beijing, China

Bachelor of Engineering in Electronic Engineering, GPA: 92 / 100

July 2018

- Ranked in top 5% of 233 students.

EXPERIENCE

Machine Learning Group, Northeastern University

Boston, MA

Research Assistant

Sep 2018 – Present

- Led the research topic of *Lifelong Machine Learning*, proposed and implemented several novel deep learning based algorithms in PyTorch and TensorFlow.
- Contributed to the development of *Radiofrequency Machine Learning System*, a software library for massive scale (10k+ classes, 7TB data) radiofrequency signal classification.
- Published papers in top-tier conferences (ICDM, NeurIPS, etc.).
- Involved in different research subgroups, presented and communicated with colleagues weekly.
- Analyzed and preprocessed data from different domains.

Channing Laboratory, Harvard Medical School

Boston, MA

Collaborator

Sep 2018 – Present

- Developed a novel deep learning model which combines biological domain knowledge for patients' smoking status prediction using RNAseq data, achieved state-of-the-art accuracy and better interpretability.
- Led the writing of a journal paper, submitted to PLOS Genetics.
- Collaborated with doctors and presented results to researchers with biology backgrounds.

i-Vision Group, Tsinghua University

Beijing, China

Undergrad Research Assistant

Sep 2017 – Mar 2018

- Implemented an novel algorithm to track multiple people in video clips using a deep reinforcement learning based approach with state-of-the-art performance, coauthored a conference paper published in ECCV.
- Helped conduct experiments with competing methods and did comprehensive literature review.

Vision Learning Group, University of Michigan

Ann Arbor, Michigan

Visiting Student

July 2017 – Sep 2017

- Implemented the end-to-end Hourglass model, a deep learning model for instance segmentation problem in computer vision, achieved state-of-the-art results on MSCOCO dataset.
- Contributed to refactoring and optimization of the codebase with multiple collaborators, improved the performance by 8% in mean average precision and 80% in running speed.

Data Science & Intelligence Lab, Tsinghua University

Beijing, China

Undergrad Research Assistant

Feb 2016 – July 2016

- Processed 67 million online shopping logs from 2 million users via Hadoop.
- Analyzed customers' online shopping behavior by performing co-clustering on the processed data and coauthored a journal paper.

LEADERSHIP

Technology & Education: Connecting Cultures, Tsinghua University

Beijing, China

Vice President

Feb 2016 – July 2016

- Led the activity organizing team of TECC with 10+ team members.
- Organized scientific lectures with 100+ audience.

AWARDS

Best Paper Award, IEEE DySPAN 2019

Newark, NJ

Travel Award, IEEE DySPAN 2019

Newark, NJ

Travel Award, NeurIPS 2019

Newark, NJ

Dean's Fellowship, Northeastern University, 2018

Boston, MA

Evergrande Scholarship, Tsinghua University, 2016

Beijing, China

Outstanding Undergraduate Scholarship, Tsinghua University, 2016

Beijing, China

SELECTED PUBLICATIONS

Conference Papers

- **Zifeng Wang***, Tong Jian*, Kaushik Chowdhury, Yanzhi Wang, Jennifer Dy, and Stratis Ioannidis. “Learn-Prune-Share for Lifelong Learning”. IEEE International Conference on Data Mining (ICDM 2020).
- **Zifeng Wang**, Batool Salehi, Andrey Gritsenko, Kaushik Chowdhury, Stratis Ioannidis, and Jennifer Dy. “Open-World Class Discovery with Kernel Networks”. IEEE International Conference on Data Mining (ICDM 2020).
- Aria Masoomi, Chieh Wu, Tingting Zhao, **Zifeng Wang**, Peter Castaldi, Jennifer Dy. “Instance-wise Feature Grouping”. Conference on Neural Information Processing Systems (NeurIPS 2020).
- Andrey Gritsenko*, **Zifeng Wang***, Jennifer Dy, Kaushik Chowdhury, and Stratis Ioannidis. “Finding a ‘New’ Needle in the Haystack: Unseen Radio Detection in Large Populations Using Deep Learning”. IEEE International Symposium on Dynamic Spectrum Access Networks (DySPAN 2019), **Best Paper Award**.
- Liangliang Ren, Jiwen Lu, **Zifeng Wang**, et al. “Collaborative Deep Reinforcement Learning for Multi-Object Tracking”. In Proceedings of the European Conference on Computer Vision (ECCV 2018).

Journal Papers

- **Zifeng Wang**, Aria Masoomi, et al. “Improved Prediction of Smoking Status via Isoform-Aware RNAseq Deep Learning Models”. Submitted to PLOS Genetics, under review.
- Tong Jian, Yifan Gong, Zheng Zhan, Runbin Shi, Nasim Soltani, **Zifeng Wang**, et al. “Radio Frequency Fingerprinting on the Edge”. Submitted to IEEE Transactions on Mobile Computing, under review.
- Tong Jian, Bruno Rendon, Emmanuel Ojuba, Nasim Soltani, **Zifeng Wang**, et al. “Deep Learning for RF Fingerprinting: A Massive Experimental Study”. IEEE Internet of Things Magazine 3 (1), 50-57.
- Huan Yan, **Zifeng Wang**, Tzu-Heng Lin, Yong Li, and Depeng Jin. “Profiling users by online shopping behaviors.” Multimedia Tools and Applications (2017): 1-11.

SKILLS

- Research: Machine Learning, Computer Vision, AI in Healthcare, AI in Communications.
- Software: PyTorch, TensorFlow, scikit-learn, Apache Spark, Apache Hadoop.
- Programming Languages: Python, C/C++, JAVA, MATLAB.
- Personal: Fast-learning, Problem-solving, Teamwork, Interpersonal Communication.