

Qian Jiang

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Education

Ph.D. Candidate in Electrical and Computer Engineering <i>University of Illinois at Urbana-Champaign (UIUC)</i> GPA:4.0/4.0 Advisor: Professor Minh N. Do	2019- Present <i>Illinois, USA</i>
B.Sc. in Electrical Engineering <i>University of Electronic Science and Technology of China (UESTC)</i> GPA:3.9/4.0	2015 - 2019 <i>Chengdu, China</i>

Research Interests

- Machine learning and computer vision, especially transfer learning and AutoML.

Programming Skills

- Pytorch, Python, MATLAB, Bash, Vim, Git.

Research Experience

University of Illinois at Urbana-Champaign (UIUC) <i>Hardware-aware Neural Architecture Search</i>	Aug 2019 - Present <i>Illinois, USA</i>
<ul style="list-style-type: none">● Developed differentiable models predicting end-to-end hardware performance of neural network architectures.● Incorporated hardware feedback into end-to-end Differentiable Neural Architecture Search (DNAS).● Conducted experiments on CIFAR and ImageNet datasets on multiple hardware platforms (Edge GPUs, Edge TPUs, Mobile CPUs, and customized accelerators).● Demonstrated hardware performance improvement of $1.4\times$ on customized accelerators and $1.6\times$ on existing hardware processors.	
<i>Multi-source transfer learning</i> <ul style="list-style-type: none">● Formulated multi-source transfer learning as a bi-level optimization problem.● Learned task weights for each source task during training using implicit differentiation.● Conducted experiments on multiple tasks including classification and scene understanding.● Demonstrated improved performance on CIFAR10, CelebA and Cityscapes datasets.	
University of California, Los Angeles (UCLA) <i>Semantic segmentation for medical images</i>	08/2018 - 11/2018 <i>Los Angeles, USA</i>
<ul style="list-style-type: none">● Developed tools to efficiently pre-process raw skull MRI images.● Developed models to segment brain parts, especially hippocampus from raw skull images.	

Work Experience

International Business Machine Inc. (IBM) <i>Research Intern, Optimization of communication libraries for IBM clouds</i>	05/2020 - 08/2020 <i>Yorktown Heights, USA</i>
<ul style="list-style-type: none">● Developed tools to efficiently benchmark and visualize communication performance.● Optimized parameters for message passing interface on IBM clouds.	

Teaching Experience

University of Illinois at Urbana-Champaign

Teaching Assistant, Electrical and Computer Engineering Department

- ECE310: Digital Signal Processing

2021 Fall
Illinois, USA

Other Experience

University of California, Los Angeles (UCLA)

Full scholarship, Cross-disciplinary Scholar in Science and Technology (CSST)

2018 Summer
Los Angeles, UCLA

Israel Institute of Technology (Technion)

Full scholarship, Summer School of Engineering

2017 Summer
Haifa, Israel

Relevant Coursework

- ECE 544: Pattern Recognition
- ECE 549: Computer Vision
- ECE 490: Introduction to optimization
- ECE 534: Random Processes
- ECE 551: Digital Signal Processing II

Publications

Conference papers

1. **Qian Jiang**, Raymond A. Yeh, and Minh N. Do. Multi-source transfer learning by learning to weight source tasks. Under submission, 2021.
2. **Qian Jiang**, Xiaofan Zhang, Deming Chen, Minh N. Do, and Raymond A. Yeh. EH-DNAS: End-to-end hardware-aware differentiable neural architecture search. Under submission, 2021. [\[Paper\]](#) [\[Code\]](#)

Scholarships and Awards

- C3SR (Illinois- IBM Center of Cognitive Computing Systems Research) Fellowship, 2019-2021.
- Outstanding Award, National College Student Research Innovation, China, 2018.
- National Scholarship, China, 2018.
- Tanglixin Scholarship, China, 2017.
- First Prize on Internet and Tech Innovation Competition, China, 2017.