MINGRAN YANG

Email: mingrany (at) mit (dot) edu

EDUCATION

Massachusetts Institute of Technology — **Cambridge, MA**
Ph.D. in Electrical Engineering and Computer Science — Aug 2020 - *Now*
Advisor: Prof. Manya Ghobadi

Carnegie Mellon University — **Pittsburgh, PA**
M.S. in Information Networking — Aug 2018 - May 2020
Advisor: Prof. Vyas Sekar

Fudan University — **Shanghai, China**
B.Eng. in Electrical Engineering — Sep 2014 - Jul 2018
Graduated with honor from *Elite Engineer Program* in Fudan University (top 5%)

PUBLICATIONS

1. On-Fiber Photonic Computing
   Mingran Yang*, Zhizhen Zhong*, and Manya Ghobadi
   In Proc. of ACM HotNets, 2023

2. Lightning: A Reconfigurable Photonic-Electronic SmartNIC for Fast and Energy-Efficient Inference
   Zhizhen Zhong, **Mingran Yang**, Jay Lang, Christian Williams, Liam Kronman, Alexander Sludds, Homa Esfahanizadeh, Dirk Englund, and Manya Ghobadi
   In Proc. of ACM SIGCOMM, 2023

3. Using Trio – Juniper Networks' Programmable Chipset – for Emerging In-Network Applications
   Mingran Yang, Alex Baban, Valery Kugel, Jeff Libby, Scott Mackie, Swamy Sadashivaiah Renu Kananda, Chang-Hong Wu, and Manya Ghobadi
   In Proc. of ACM SIGCOMM, 2022

4. Joltik: Enabling Energy-Efficient "Future-Proof" Analytics on Low-Power Wide-Area Networks
   Mingran Yang, Junbo Zhang, Akshay Gadre, Zaoxing Liu, Swarun Kumar, and Vyas Sekar
   In Proc. of ACM MobiCom, 2020

5. Challenging the Stateless Quo of Programmable Switches
   Nadeen Gebara, Alberto Lerner, **Mingran Yang**, Minlan Yu, Paolo Costa, and Manya Ghobadi
   In Proc. of ACM HotNets, 2020

6. Learning from Multiple Annotator Noisy Labels via Sample-wise Label Fusion
   Zhengqi Gao, Fan-Keng Sun, **Mingran Yang**, Sucheng Ren, Zikai Xiong, Marc Engeler, Antonio Burazer, Linda Wildling, Luca Daniel, and Duane. S. Boning
   In European Conference on Computer Vision (ECCV), 2022

HONORS AND AWARDS

- **Microsoft Research PhD Fellowship**, Microsoft — 2023 - 2025
- **SIGCOMM'23 Travel Grant**, SIGCOMM — Sep 2023
- **SIGCOMM'22 Travel Grant**, SIGCOMM — Aug 2022
- **MIT Presidential Fellowship**, MIT — 2020 - 2021
- **Outstanding Research Assistant Award**, CMU — May 2020
- **Merit Admission Scholarship**, CMU — Aug 2018
- **Shanghai Outstanding Undergraduate Student** (highest honor), Fudan University — Jun 2018
- **Women Techmakers Scholar**, Google — Jul 2017
- **National Scholarship** (highest honor), Ministry of Education of China — Nov 2016

RESEARCH EXPERIENCE

Massachusetts Institute of Technology Cambridge, MA
Advisor: Prof. Manya Ghobadi Aug 2020 - *Now*
Topic: Networks for machine learning, in-network computing, and programmable switch architecture

Carnegie Mellon University Pittsburgh, PA
Advisor: Prof. Vyas Sekar Jan 2019 - May 2020
Topic: System design for general, future-proof, and energy-efficient analytics for LPWANs

University of California, Los Angeles Los Angeles, CA
Advisor: *Prof. Wentai Liu* Jul 2017 - Sep 2017
Topic: Digital and analog circuit design for biomedical applications

Fudan University Shanghai, China
Advisor: *Prof. C.-J. Richard Shi* Jun 2016 - May 2017
Topic: Low-power digital baseband design for neural signal recording and processing chip

WORKING EXPERIENCE

Juniper Networks Sunnyvale, CA
PhD Software Engineer Intern May 2022 - Aug 2022
• Architecture design and use case exploration for next generation of high performance networking chips

National Instruments Shanghai, China
FPGA Software Engineer Intern Mar 2018 - Jun 2018
• Built Verilog support in LabVIEW NXG, enabled parsing, simulation and compilation for Verilog projects

TEACHING EXPERIENCE

Massachusetts Institute of Technology Cambridge, MA
Teaching Assistant for course 6.5820 Computer Networks Sep 2023 - *Now*
• In addition to general TA responsibilities, created and delivered lecture on "P4 programming and in-network computing."

Carnegie Mellon University Pittsburgh, PA
Teaching Assistant for course 15441/641 Computer Networks Aug 2019 - Dec 2019
• In addition to general TA responsibilities, developed course project "high-concurrency HTTP web server"

SERVICE

Artifact Evaluation Committee SIGCOMM 2023

LANGUAGE AND SKILLS

Language Level English (proficient), Mandarin Chinese (native speaker)
Programming Languages C, C++, Python, P4, Verilog, Golang, Java, *C#*, MATLAB, LaTeX