

EDUCATION**Purdue University**, West Lafayette, Indiana USA**Jun. 2019 – Now**

Ph.D., Computer Science

Advisor: Chunyi Peng

Research Interests: Video analytics, Edge computing, Autonomous and connected drones

University of Michigan, Ann Arbor, Michigan USA**Sep. 2017 – Apr. 2019**

M.S., Electrical and Computer Engineering

Beijing University of Posts and Telecommunications (BUPT), Beijing, China**Queen Mary University of London (QMUL)**, London, UK**Sep. 2013 – Jun. 2017**

B.E., Telecommunications Engineering with Management

(International dual degrees, a joint program at BUPT and QMUL)

**SELECTED
PUBLICATIONS**

- [C1] **Junpeng Guo**, Shengqing Xia, and Chunyi Peng. “OPA: One-Predict-All For Efficient Deployment”, in IEEE INFOCOM 2023,
- [C2] **Junpeng Guo**, Shengqing Xia, and Chunyi Peng. “VPPlus: Exploring the Potentials of Video Processing for Live Video Analytics at the Edge”, in IEEE IWQoS 2022
- [C3] Haotian Deng, Kai Ling, **Junpeng Guo**, Chunyi Peng, “Unveiling the missed 4.5G performance in the Wild”, in HotMobile 2020.
- [C4] Yikai Lin, Yuru Shao, Xiao Zhu, **Junpeng Guo**, Kira Barton, Z. Morley Mao, “ADD: Application and Data-Driven Controller Design”, in SOSR 2019.
- [P1] **Junpeng Guo**, Chunyi Peng, “Poster: Towards Drone-Sourced Live Video Analytics via Adaptive-yet-Compatible Compression”, in HotMobile 2021.
- [P2] Jiachen Sun, Xumiao Zhang, **Junpeng Guo**, “Poster: Enabling Multi-device Collaboration Using Distributed Mobile Multipath”, UMich EECS Poster Session, Apr. 2019.

**RESEARCH
EXPERIENCE****Purdue University, Research Assistant**

West Lafayette, IN

Advisor: Prof. Chunyi Peng

- (Ongoing) Develop autonomous drone delivery to the door.
- Designed a video analytics system to support a broader range of configuration parameters to tune on-device processing for fewer bytes and comparable analytical accuracy [C1].
- Designed a DNN selection paradigm to handle environment dynamics given different source data and computing power [C2].
- Designed a drone-sourced edge-assisted video analytics system to reduce the cost of video transmission while guaranteeing the performance of video analytics [P1].
- Conducted a city-scale measurement over today’s cellular network to characterize performance gaps between what mobile devices actually got and what they could have got at best [C3].

University of Michigan, Research Assistant

Ann Arbor, MI

Advisor: Prof. Z. Morley Mao

- Built a data-driven controller to process on-demand data and tested it on a smart manufacturing system to enable more flexible reconfigurations when anomalies are detected [C4].
- Designed a system to allow multiple mobile devices to collaboratively fetch content from the Internet [P2].

**SERVICES AND
ACTIVITIES**

- Program Committee for ACM S3 2021
- Reviewer for IEEE TMC, Computer Communications
- Teaching Assistant, Data Communication and Computer Networks (Fall 2021)

TECHNICAL SKILLS

- Programming languages: Java, C, Python, Julia, MATLAB, VHDL, AMPL
- Frameworks and tools: Android, PyTorch, TensorFlow, SDN (ONOS, RYU), MySQL