Junpeng Guo *Phone:* **(734) 882-9677** *E-mail:* **guo567@purdue.edu**

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
- 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