# Z. JONNY KONG

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## RESEARCH INTEREST

Networked & Mobile Systems, Systems for Machine Learning, Edge-assisted AR/VR, 5G.

## EDUCATION

**Purdue University** — West Lafayette, IN, U.S.
Ph.D. in Electrical and Computer Engineering (GPA: 3.80/4) — Aug 2020 - Present

**University of California, Los Angeles** — Los Angeles, CA, U.S.
M.S. in Computer Science (GPA: 3.95/4) — Sep 2018 - June 2020

**Beihang University** — Beijing, China
B.E. in Automation (GPA: 91.48/100) — Sep 2014 - June 2018

## RESEARCH AND PROFESSIONAL EXPERIENCE

**Purdue University** — West Lafayette, IN, U.S.
Research Assistant — Aug 2020 - Present
Advisor: Prof. Y. Charlie Hu

- Designed machine-learning-as-a-service (MLaaS) frameworks that maximizes the capacity of a GPU server in serving edge-assisted AR mobile apps
- Designed MLaaS frameworks that optimizes the overall accuracy of an AR mobile app that offloads multiple tasks to an edge GPU server [2]
- Profiled and analyzed the performance of next-generation wireless networks, e.g. 5G mmWave [1] [7] and 802.11ad [5]
- Analyzed and designed systems for next-generation mobile apps via edge computing [9] [8], and analyzed their performance on 5G networks [3] [4]

**University of California, Los Angeles** — Los Angeles, CA, U.S.
Research Assistant — Oct 2018 - Jun 2020
Advisor: Prof. Lixia Zhang

- Performed extensive experiments and designed the protocols for data synchronization [6] [11], a transport-layer protocol for Named Data Networking (NDN)

**NetEase Inc.** — Beijing, China
Software Engineering Intern — Mar 2018 - Jun 2018

- Used NLP models to suggest related short phrases at each page footer in the NetEase News app, which leads users to click on and jump to the search page

## PUBLICATIONS

### Conference Papers

[1] Moinak Ghoshal*, Imran Khan*, **Z. Jonny Kong***, Phuc Dinh, Jiayi Meng, Y. Charlie Hu, Dimitrios Koutsonikolas. *"Performance of Cellular Networks on the Wheels"*. In **ACM IMC 2023**. (* co-primary)

[2] **Z. Jonny Kong***, Qiang Xu*, Jiayi Meng, Y. Charlie Hu. *"AccuMO: Accuracy-Centric Multitask Offloading in Edge-Assisted Mobile Augmented Reality"*. In **ACM MobiCom 2023**. (*co-primary)

[3] Moinak Ghoshal*, **Z. Jonny Kong***, Qiang Xu*, Zixiao Lu, Shivang Aggarwal, Imran Khan, Jiayi Meng, Yuanjie Li, Y. Charlie Hu, Dimitrios Koutsonikolas. *Can 5G mmWave Enable Edge-Assisted Real-Time Object Detection for Augmented Reality?*. In **IEEE MASCOTS 2023**. (*co-primary)

[4] Moinak Ghoshal, Pranab Dash, **Zhaoning Kong**, Qiang Xu, Y. Charlie Hu, Dimitrios Koutsonikolas, Yuanjie Li. *"Can 5G mmWave Support Multi-User AR Apps?"*. In **PAM 2022**. [pdf]

[5] Shivang Aggarwal, **Zhaoning Kong**, Moinak Ghoshal, Y. Charlie Hu, Dimitrios Koutsonikolas. *"Throughput Prediction on 60 GHz Mobile Devices for High-Bandwidth, Latency-Sensitive Applications"*. In **PAM 2021 (Best Dataset Award)**. [pdf]

[6] Tianxiang Li, **Zhaoning Kong**, Spyridon Mastorakis, Lixia Zhang. *"Distributed Dataset Synchronization in Disruptive Networks"*. In **IEEE MASS 2019**. [pdf]

**Workshop Papers & Posters**

[7] Moinak Ghoshal*, **Z. Jonny Kong***, Qiang Xu*, Zixiao Lu, Shivang Aggarwal, Imran Khan, Yuanjie Li, Y. Charlie Hu, and Dimitrios Koutsonikolas. *"An In-Depth Study of Uplink Performance of 5G mmWave Networks"*. In **ACM SIGCOMM 5G-MeMU Workshop '22**. (* co-primary) [pdf]

[8] Jiayi Meng, **Z. Jonny Kong**, Y. Charlie Hu, Mun Gi Choi, Dhananjay Lal. *"Do We Need Sophisticated System Design for Edge-assisted Augmented Reality?"*. In **ACM EdgeSys 2022 (Best Paper Award)**. [pdf]

[9] Jiayi Meng*, **Zhaoning Kong***, Qiang Xu, Y. Charlie Hu. *"Do Larger (More Accurate) Deep Neural Network Models Help in Edge-assisted Augmented Reality?"*. In **ACM SIGCOMM NAI Workshop '21**. (*co-primary) [pdf]

[10] Lana Ramjit, **Zhaoning Kong**, Ravi Netravali, Eugene Wu. *"Physical Visualization Design (demo)"*. In **ACM SIGMOD 2020**. [pdf]

[11] Tianxiang Li, **Zhaoning Kong**, Lixia Zhang. *"Supporting Delay Tolerant Networking: A Comparative Study of Epidemic Routing and NDN"*. In **IEEE ICC '20 ICN-SRA workshop**. [pdf]

## SELECTED HONORS AND AWARDS

**Research Awards**

- Best Paper Award, EdgeSys '22
- Best Dataset Award, PAM '21

**Student Awards**

- National Scholarship of China, 2017 (Top 0.2% nationwide)

## PROFESSIONAL SERVICES

**Journal Reviewers**: IEEE Network, Computer Communications
**Artifact Evaluation Committee (AEC)**: ACM MobiSys 2023, SOSP 2023

## TEACHING ASSISTANT

**ECE 26400 Advanced C Programming**, Fall '20, Spring '21, Summer '21, Purdue University
**CS 151B Computer Systems Architecture**, Winter '20, UCLA
**CS 217A Internet Architecture and Protocols**, Fall '19, UCLA