Jiayi Meng

+1-817-272-3729

Assistant Professor of Computer Science and Engineering
The University of Texas at Arlington

jiayi.meng@uta.edu
https://ranger.uta.edu/~jmeng/

Research Interests

Systems and Networking, with a focus on Mobile Systems, Mobile Networking, Edge Computing, 5G (and beyond), and VR/AR/MR.

Education

Purdue University — West Lafayette, IN, USA
Ph.D. in Computer Science — Mar. 2018 – Aug. 2023

Purdue University — West Lafayette, IN, USA
Master in Computer Science — Aug. 2016 – Mar. 2018

University of Science and Technology of China (USTC) — Hefei, Anhui, China
B.E. in Computer Science and Technology — Sep. 2012 – June 2016

Publications

Conference Papers

[1] Jiayi Meng, Jingqi Huang, Y. Charlie Hu, Yaron Koral, Xiaojun Lin, Muhammad Shahbaz, and Abhigyan Sharma. Modeling and Generating Control-Plane Traffic for Cellular Networks. In **ACM IMC**, 2023. **Best Paper Award (Runners Up)!** *Acceptance rate: 25.0%.*

[2] Moinak Ghoshal*, Imran Khan*, Z. Jonny Kong*, Phuc Dinh, Jiayi Meng, Y. Charlie Hu, and Dimitrios Koutsonikolas. Performance of Cellular Networks on the Wheels. In **ACM IMC**, 2023. *Acceptance rate: 25.0%.* (*: co-primary)

[3] Z. Jonny Kong*, Qiang Xu*, Jiayi Meng, and Y. Charlie Hu. AccuMO: Accuracy-Centric Multitask Offloading in Edge-Assisted Mobile Augmented Reality. In **ACM MobiCom**, 2023. *Acceptance rate: 29.4%.* (*: co-primary)

[4] Moinak Ghoshal*, Z. Jonny Kong*, Qiang Xu*, Zixiao Lu, Shivang Aggarwal, Imran Khan, Jiayi Meng, Yuanjie Li, Y. Charlie Hu, and Dimitrios Koutsonikolas. Can 5G mmWave Enable Edge-Assisted Real-Time Object Detection for Augmented Reality? In **IEEE MASCOTS**, 2023. *Acceptance rate: 30.0%.* (*: co-primary)

[5] Jiayi Meng, Qiang Xu, and Y. Charlie Hu. Proactive Energy-Aware Adaptive Video Streaming on Mobile Devices. In **USENIX ATC**, 2021. *Acceptance rate: 18.8%.*

[6] Jiayi Meng*, Sibendu Paul*, and Y. Charlie Hu. Coterie: Exploiting Frame Similarity to Enable High-Quality Multiplayer VR on Commodity Mobile Devices. In **ACM ASPLOS**, 2020. *Acceptance rate: 18.1%.* (*: co-primary)

[7] Jiayi Meng, Abhigyan Sharma, Tuyen X Tran, Bharath Balasubramanian, Gueyoung Jung, Matti Hiltunen, and Y Charlie Hu. 2020. A Study of Network-Side 5G User Localization Using Angle-Based Fingerprints. In **IEEE LANMAN**, 2020.

[8] Xiaomeng Chen, Jiayi Meng, Y. Charlie Hu, Maruti Gupta, Ralph Hasholzner, Venkatesan Nallampatti Ekambaram, Ashish Singh, and Srikathyayani Srikanteswara. A Fine-Grained Event-Based Modem Power Model for Enabling In-Depth Modem Energy Drain Analysis. In **ACM SIGMETRICS**, 2018. *Acceptance rate: 20.0%.*

[9] Haotian Deng, Chunyi Peng, Ans Fida, Jiayi Meng, and Y. Charlie Hu. Mobility Support in Cellular Networks: A Measurement Study on Its Configurations and Implications. In **ACM IMC**, 2018. *Acceptance rate: 24.7%.*

[10] Kai Zhang, Bingsheng He, Jiayu Hu, Zeke Wang, Bei Hua, Jiayi Meng, and Lishan Yang. G-NET: Effective GPU Sharing in NFV Systems. In **USENIX NSDI**, 2018. *Acceptance rate: 15.4%.*

Workshop Papers & Posters

[11] Jingqi Huang*, Jiayi Meng*, Iftekharul Alam, Christian Maciocco, Y. Charlie Hu, and Muhammad Shahbaz. Accelerating 5G (Mobile Core) Control Plane using P4. In **P4 Workshop**, 2022. (*: co-primary)

[12] Jiayi Meng, Zhaoning Kong, Y. Charlie Hu, Mun Gi Choi, and Dhananjay Lal. Do We Need Sophisticated System Design for Edge-Assisted Augmented Reality? In **ACM EdgeSys**, 2022. **Best Paper Award!**

[13] Jiayi Meng*, Zhaoning Kong*, Qiang Xu, and Y. Charlie Hu. Do Larger (More Accurate) Deep Neural Network Models Help in Edge-Assisted Augmented Reality? In **ACM SIGCOMM NAI**, 2021. (*: co-primary)

[14] Shivang Aggarwal, Swetank Kumar Saha, Pranab Dash, Jiayi Meng, Arvind Thirumurugan, Dimitrios Koutsonikolas, and Y. Charlie Hu. Poster: Can Mobile Hardware Keep Up with Today's Gigabit Wireless Technologies? In **ACM MobiCom**, 2019.

Patents

[15] Jiayi Meng, Z. Jonny Kong, Y. Charlie Hu, Mun Choi, and Dhananjay Lal. Efficient Offloading of Video Frame Processing Tasks in Edge-Assisted Augmented Reality. In **US 2023/0326204**, 2023.

HONORS AND AWARDS

- **Best Paper Award (Runners Up)** in ACM IMC, 2023.
- **Rising STARs Award** under The University of Texas System, 2023.
- **Best Paper Award** in ACM EdgeSys, 2022.
- **Best Undergraduate Thesis** for "Building High-Performance Network Intrusion Detection System Using GPU on the NFV Platform" in USTC, China, 2016.
- **Outstanding Graduates** on Good Character and Excellent Research in Anhui Province, China, 2016.
- **Honorable Mention** for Mathematical Contest in Modeling in China, 2015.
- **CCF (China Computer Federation) Outstanding Undergraduate Award**, 2015.
- **National Scholarship** in USTC, China, 2013.

RESEARCH GRANTS

- Contributed to the writing of **NSF CNS Core Small Award**. A Split Software Architecture for Enabling High-Quality Mixed Reality on Commodity Mobile Devices. [Award Number: 2112778]
- Contributed to the writing of **Research Proposal to Intel Corporation**. Towards a Domain-Specific Hardware/Software Co-Optimized Framework for NextGen Mobile Core.
- Contributed to the writing of **Research Proposal to Charter Communications, Inc.** Enabling High-resolution Augmented Reality over the Edge Network.

STUDENT MENTORING AND SUPERVISION

Ph.D. Student
- Nikolaos Ntokos, Fall 2023 — present.

Master Student
- Gayatri Sravya Siripurapu, Spring 2024 — present.
- Dhushyanth Manjunath, Fall 2023.

TEACHING

- Distributed Systems (CSE 5306), Spring 2024.
- Distributed Systems (CSE 5306), Fall 2023.

PROFESSIONAL SERVICES AND ACTIVITIES

Organizing Committee
- 2024: ACM SIGCOMM Travel Grant Co-Chair
- 2023: ACM SOSP Artifact Evaluation Committee (Co-Chair)

Program Committee
- 2024: ACM EuroSys (Fall); IEEE ICCCN; IEEE ICDCS
- 2023: ACM ImmerCom
- 2022: ACM EuroSys (Shadow PC)

Reviewer Activities
- 2023: IEEE Transactions on Mobile Computing, IEEE Network, Journal of Parallel and Distributed Computing

Artifact Evaluation Committee
- 2022: ACM SIGCOMM
- 2021: ACM SOSP, ACM EuroSys, ACM SIGCOMM