

# Haoxiang Yu

hxyu@utexas.edu

Department of Electrical and Computer Engineering  
Cockrell School of Engineering  
The University of Texas at Austin  
Austin, Texas 78712

Programming Languages: Python, SQL, Java, Swift, Objective-C, Kotlin

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## EDUCATION

**Ph.D. , Software Engineering, The University of Texas at Austin** (Expected) May 2024

Research Area: Pervasive Computing, Decentralized Learning | Supervisor: Dr. Christine Julien

**M.S. in Computer Science, Miami University** May 2021

Thesis: A Comprehensive System for Dynamic and Distributed Taxi Ride-Sharing via Localized Communication | Supervisor: Dr. Vaskar Raychoudhury

**B.S. in Computer Science, Miami University** May 2020

Graduated with *Cum Laude*

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## AWARDS & FELLOWSHIPS

**Fellowship, The University of Texas at Austin** Aug 2021 - May 2024

\$36,000 awarded over 4 years

**Best Student Paper Award, Mobiquitous 2021** Nov 2021

**Student Project Award - Honorable Work, ICDH 2021** Sep 2021

**Provost's Student Academic Achievement Award, Miami University** Sep 2020

Granted annually to 10-15 students achieving an outstanding record of academic excellence; first computer science student to receive the award since 2016

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## PROFESSIONAL EXPERIENCE

**Graduate Research Assistant, The University of Texas at Austin** Aug 2021 - Present

*Cockrell School of Engineering | Supervisor: Dr. Christine Julien*

- Perform research on Smart Home, IoT, Mobile System, and Middleware
- Develop and maintain a federated learning system with other research group members
- Lead a team of undergraduate students in designing a system to simulate environment characteristics for smart home design

**Teaching Assistant, Graduate Assistant, Miami University** Sep 2018 - May 2021

*Algorithm, Data Structure, and Obj-Oriented Programming*

- Hosted help sessions to answer questions and explain course materials to students
- Built Junit test and test codes submitted by students
- Assessed students' work and provided feedback to both students and professors

**Center for Analytics and Data Science (CADS) Intern, Miami University** Jan 2019 - May 2019

- Developed a chatbot for a top-ranked fortune 500 healthcare company using massive amounts of internal product information data

- Applied data processing, machine learning, and natural language processing to design a system that understands user inputs and replies with appropriate answers

**Software/Data Engineer, Beijing Aixuan Info Tech. Co., Ltd.**

Jun 2017 - Jan 2019

- Led development and maintenance of Aixuan's official website and back-office system
- Applied natural language processing to analyze manually input physical examination data
- Utilized algorithms to sort and analyze terabytes of healthcare and insurance data
- Established strategic plans including long-term consideration of technology selection and project planning with other co-founders to increase the company's presence in the insurance industry

## **PUBLICATIONS**

### *Journal Article*

1. **Yu, Haoxiang**, Vaskar Raychoudhury, Snehanshu Saha, Md Osman Gani, Janick Edinger, and Roger Smith, "Automated Surface Classification System using Vibration Patterns - A Case Study with Wheelchairs" IEEE Transactions on Artificial Intelligence

### *Conference Proceedings*

2. **Yu, Haoxiang**, Hsiao-Yuan Chen, Sangsu Lee, Xi Zheng, and Christine Julien. "Prototyping Opportunistic Learning in Resource-Constrained Mobile Devices" Proceedings of the 1st Workshop on Pervasive and Resource-Constrained Artificial Intelligence (at PerCom). 2022
3. Lee, Sangsu, **Haoxiang Yu**, Xi Zheng, and Christine Julien. "Swarm: Playground for Large-scale Decentralized Learning Simulations" Proceedings of the IEEE Pervasive Computing and Communication (Demo Paper). 2022
4. Jie, Hua, **Haoxiang Yu**, Sangsu Lee, Hamim Md Adal, Colin Milhaupt, Gruia-Catalin Roman, and Christine Julien. "CoPI: Enabling probabilistic conflict prediction in smart space through context-awareness" Proceedings of the 7th ACM/IEEE Conference on Internet of Things Design and Implementation. 2022
5. Hata John, **Haoxiang Yu**, Vaskar Raychoudhury, Snehanshu Saha, and Huy Tran Quang. "Study of Heterogeneous User Behavior in Crowd Evacuation in Presence of Wheelchair Users" Proceedings of the 20th International Conference on Practical Applications of Agents and Multi-Agent Systems. 2022
6. **Yu, Haoxiang**, Jie Hua, and Christine Julien, "Dataset: Analysis of IFTTT Recipes to Study How Humans Use Internet-of-Things (IoT) Devices" Proceedings of the 4th Workshop on Data Acquisition To Analysis (at BuildSys). 2021
7. **Yu, Haoxiang**, Vaskar Raychoudhury, and Snehanshu Saha. "Dynamic Taxi Ride-Sharing through Adaptive Request Propagation using Regional Taxi Demand and Supply" Proceedings of the 18th EAI International Conference on Mobile and Ubiquitous Systems: Computing, Networking, and Services. 2021 **[Best Student Paper Award]**
8. Mokrenko, Valeria, **Haoxiang Yu**, Vaskar Raychoudhury, Janick Edinger, Roger Smith, and Md Osman Gani. "A Transfer Learning Approach to Surface Detection for Accessible Routing for Wheelchair Users" Proceedings of the IEEE 45th Annual Computers, Software, and Applications Conference. 2021
9. **Yu, Haoxiang**, Vaskar Raychoudhury, and Shrawani Silwal. "Dynamic taxi ride-sharing using localized communication" Proceedings of the 21st International Conference on Distributed Computing and Networking. 2020

### *Submitted Papers*

10. **Yu, Haoxiang**, Vaskar Raychoudhury, Snehanstu Saha, and Md Osman Gani, "SharePredict: A Comprehensive System for Distributed TaxiRide-Sharing via Demand Forecasting and Localized Communication", IEEE Transactions on Intelligent Transportation Systems
11. Mathur, Archana, Rohit Garg, Snehanstu Saha, Vaskar Raychoudhury, **Haoxiang Yu**, and Saibal Kar "Identifying Surface Accessibility through Vibration Classification: A Novel Utility Kernel Approach" Journal of Pervasive and Mobile Computing

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## ACADEMIC SERVICE

Reviewer, IEEE Transactions on Mobile Computing	2022
Reviewer, Journal of Network and Computer Applications	2021, 2022
Subreviewer, International Conference on Pervasive Computing and Communications(PerCom)	2022
Organizer, Perawarecity-WSCC-2022 (Workshop at PerCom 2022)	2022
Reviewer, Journal of Mobile Networks and Applications	2022
Reviewer, International Conference on Mobile and Ubiquitous Systems (Mobiquitous)	2021
Subreviewer, International Conference on Distributed Computing and Networking (ICDCN)	2021

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## MENTORING EXPERIENCE

<b>Haochen Xu, Benjamin Wu</b> <i>Undergraduate Students at University of Texas at Austin - Undergraduate Research</i>	Feb 2022 - Present
<b>Tuong Anh Nguyen, Huy Tran Quang, Reetik Chandra</b> <i>Undergraduate Students at Miami University - Undergraduate Research</i>	May 2021 - Present
<b>Zeng Yi, Bingfan Tian, Changhao Li, Tingzhao Wang, Haoduan Jiang</b> <i>Capstone Group at Miami University - Machine Learning</i>	Sep 2020 - May 2021
<b>Tooba Masood, Andrew Grimes, Lance Grengbondai, Alex Chirokov</b> <i>Capstone Group at Miami University - App/System Development</i>	Sep 2020 - May 2021