

# Tianyuan(Alex) Du

734-263-9234 | alex.du@duke.edu | alextydu.github.io | 

## Education

<b>Duke University,</b> Ph.D. in Electrical and Computer Engineering GPA: 3.9/4.0	2024/08 to now
Research Interest: Mobile Computing, Augmented Reality, Robotics, Human-Computer Interaction Courses: Computer Network, Edge Computing, Generative Models, Computer Engineering for Neural Networks.	
<b>University of Michigan, Ann Arbor,</b> Bachelor of Science in Computer Science, with minor in Statistics GPA: 3.7/4.0	2024/05

## Skills

**Programming Languages:** C++, C#, C, MATLAB, Python, Java, Javascript, R, SQL  
**Technical Expertise:** Unity, Wireless Systems, Machine Learning, Computer Vision, Signal Processing.  
**Languages:** Chinese(Native), English(Fluent)

## Experience

<b>Research Assistant,</b> I3T Lab, Duke University, US	2024/08 to now
Advised by Professor Maria Gorlatova, working on latency-aware multi-party systems for localization and mapping that enables human-robot collaboration with Augmented Reality (AR) technology.	
<b>Research Assistant,</b> Interactive Sensing & Computing Lab, University of Michigan, Ann Arbor, US	2022/05 to 2024/04
Advised by Professor Alanson Sample and graduate student Yang-Hsi Su, leaded research on a novel system for indoor sensing with Bluetooth Low Energy antenna array. Conceptualized and implemented a custom two-dimensional Angle of Arrival measurement algorithm that improved prior work. Proposed and implemented a depth estimation pipeline based on machine learning, creating a 3-dimensional localization pipeline. Designed experiments to evaluate its performances. First author paper accepted.	

<b>Teaching Assistant,</b> EECS 367 (Autonomous Robotics), University of Michigan, Ann Arbor, US; ECE 653 (Human-Centric Computing), Duke University, US	2024/01 to 2024/04, 2025/08 to 2025/12
---	--

<b>Engineer Intern,</b> Applied Science & Technology Research Institute, Hong Kong S.A.R.	2021/06 to 2021/08
Worked in the Communication Division of Network Software Group, focusing on automated-driving vehicles. Developed a system for automatic parking and end-to-end automatic camera calibration.	

## Publications

T. Hu, **T. Du**, Z. Qu, and M. Gorlatova, "XR Reality Check: What Commercial Devices Deliver for Spatial Tracking," IEEE International Symposium on Mixed and Augmented Reality (ISMAR), 2025. [Paper]

**T. Du**, Y. Su, and A. Sample, "2D+Depth RF Localization via a Low-Cost Receiver," IEEE Wireless Communications and Networking Conference (WCNC), 2024, Dubai, UAE. [Paper]

T. Kang, A.-D. Dinh, B. Wang, **T. Du**, Y. Chen, K. Chau, "Optimization of a Real-Time Wavelet-Based Algorithm for Improving Speech Intelligibility," arXiv:2202.02545 [cs.SD], 2022. [Paper]

## Projects

---

**Multi-Player XR System for Parkinson's Rehabilitation.** Collaborated with Nokia Bell Labs, Columbia University, and the University of Southern California to design and implement rehabilitation games and the network infrastructure supporting multi-player extended reality experiences.

**Latency-Aware Multi-Party SLAM for HRI in AR.** Design and implemented system for multiple human users and robots to perform tracking and mapping collaboratively in real-time.

## Awards and Honors

---

**First-Year Ph.D. Student Fellowship** 2024  
Awarded by Duke University.

**Jame B. Angels Scholar** 2024  
Awarded by the University of Michigan, Ann Arbor for consecutive outstanding academic records.

**University Honors** 2022 to 2023  
Awarded by the University of Michigan, Ann Arbor for academic excellence.

**Dean's List** 2021  
Awarded by the HKUST for academic excellence.

**Scholarship Scheme for Continuing Undergraduate Student** 2021  
Awarded by HKUST for recognition and honor of outstanding academic performance (top 10% of all continuing undergraduates).