Zixin Yin

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EDUCATION

Georgia Institute of Technology, Atlanta, GA **(PhD in Computer Science)** August 2021—Present
Overall GPA: 3.58/4.00
Academic Achievement: First Prize Winner of Graduate Poster Competition

Dickinson College, Carlisle, PA **(B.S. in Computer Science)** May 2021
Overall GPA: 3.91/4.00 **Major GPA**: 3.96/4.00
Academic Achievement: Dickinson International Scholarship, Hugh B. & Helen Woodward Scholar, Dean's List

SKILLS

Computer languages: Java, Python, C, C++, HTML, CSS, JavaScript, R, MatLab **Python Libraries**: NumPy, Pytorch, TensorFlow, SciPy, Pandas, Matplotlib, Pyplot
Technologies: Linux system, Git, Android Studio, Apache2, Arduino
Communication Skills: Group work, Mentoring, Poster Presentation, Technical Writing, Working with Clients

RESEARCH PROJECTS

Advisor: Dr. Ashutosh Dhekne (Georgia Institute of Technology)
Refined UWB Localization in Practical Indoor Settings (Paper in Preparation) Sep 2021—Present

- Implemented 3D Time-Difference-of-Arrival location solver and compared performance with 2D location solver along axises.
- Simulated and tested performance of location selection algorithm for short-range beacons used to reduce localization accuracy at corner cases.
- Implementing automated anchor set-up process that groups anchors and schedules group communications to achieve the best time efficiency and to solve the collision domain problem caused by signal interference.

Indoor-Localization Android App Sep 2021—Feb 2022

- Built an **android app** in **Java** using **Android Studio** that calculated real-time user location by processing **UWB signals** (GitHub: https://github.com/zixinZoe/androidapp).
- Implemented location-based reminder functionality.
- Implemented a **Python** TDoA-based location solver that served as the **backend** server and connected with the Android app using HTTP requests (GitHub:https://github.com/zixinZoe/android_app_server).
- Modified wireless signal information sent by **Arduino** Board using **C++**.

Location-Based Accuracy Simulator (GitHub: https://github.com/zixinZoe/contourroom) Jan 2022—Apr 2022

- Built a **website** using **HTML** and **JS** that simulated location-based accuracy achieved using the TDoA-based location solver based on user inputs.
- Implemented a **Python** accuracy generator that served as the **backend** server for the website.
- Hosted the website and backend solver on a **Linux Virtual Machine** using **Apache2** 24/7. (http://indoorloc-sim.cc.gatech.edu/)

OTHER RESEARCH EXPERIENCE

Student Researcher, Remote Jan 2020—Sep 2020
Advisor: Dr. David W. Shanafelt (INRAE, France)

- Calibrated the epidemiological models to COVID-19 case data in the Republic of Korea from January 20th to April 30th using **R**. Implemented sum of squared differences to find the best fit parameter combinations for the dataset.
- Wrote a paper for submission to the Joint Mathematics Meeting (Preprint for the paper: 10.31219/osf.io/74fmy). Presented research poster at **Joint Mathematics Meeting** 2021.

MENTORING EXPERIENCE

Computer Science Quantitative Reasoning Teaching Assistant, Carlisle, PA Aug 2019— Dec 2020

- Employed a variety of communication styles to explain basic concepts and complex algorithms to advance student understanding of the content and to improve student learning skills.
- Explained knowledges like Java coding, data structure, calculus, and linear algebra as appropriate to help students have better understanding for course material and develop logical thinking.