

# Zhuofan Sun

Pittsburgh, PA | (412) 320 9974 | [zhuofans@andrew.cmu.edu](mailto:zhuofans@andrew.cmu.edu) | [Linkedin](#) | [Personal Website](#) | **2025 Full-Time**

## Education

### Carnegie Mellon University

Master of Engineering in Mobile and Internet of Things

Pittsburgh, PA

August 2023 - May 2025

### Beijing University of Technology

Bachelor of Engineering in Internet of Things

Beijing, China

September 2019 - June 2023

## Experience

### Carnegie Mellon University, HCII- C&C Lab

May 2024 - Present

**Research Assistant** | AI-Assisted Social Coding

Pittsburgh

- Utilized **Empirica** for social coding experiment, integrating **Node.js** and **Python** to connect frontend and backend. Incorporated ChatGPT API for dynamic code generation.
- Developed a responsive design using **React+SASS**, implementing dynamic UI components (navigation, modals, online compiler). Implement **React-Chatbotify** for AI-Assistant.

### TikTok

July 2022 - January 2023

**Software Engineer Intern** | AI-Lab Robotics: E-commerce & Inventory

Beijing

- Agile development and maintenance front-end across 3 platform using **React Native+TypeScript**, managed state with **Redux**. Implemented **3+features** (Order Merging, Time Estimation, Voice Interaction System, etc.), collectively improved punctuality rates by **30%** and eliminated manual interventions.
- Standardized mailroom operations by integrating a **MongoDB** database for scalable data storage, employing **Django ORM** and **RESTful** APIs for backend integration, boosting daily delivery capacity from **100 to 2,700**.
- Designed and implemented a RGB-D vSLAM based elevator control process with two modes, reducing manual interventions by **75%**. Used **Python** for real-time integration with **ROS APIs**.

### WULA

May 2019 - Present

**Software Engineer & Design** | Social App Startup

Remote

- Led the design of a social app, focusing on iOS development using **Objective-C/Swift** and **UIKit**, implementing component-level state management through the **MVVM** pattern. Launched in **17 countries** over **8000 active users**.
- Developed reusable Swift components, integrated **CoreData** for local storage, enabling offline functionality and improved loading times on iOS. Implemented **Nautik** load balancing to ensure low-latency response during peak-periods by predicting high traffic and preemptively adjusting server resources.
- Leveraged proficiency in **UI/UX** design using **Figma & Adobe AE**, translate **prototyping** into functional code

## Project

### Furball Flight| Iterate Hackathon

- Developed an iOS arcade-game using **Swift** and **Objective-C**, optimized user experience and gameplay mechanics.
- Implemented physics-based animations using **SpriteKit** Physics Engine, creating realistic gravity effects and collision detection for dynamic obstacles.
- Utilized **SceneKit** for custom background rendering, achieving a visually immersive game environment. Optimized performance with **Metal** to ensure fluid graphics and minimal latency on iOS devices.

### Volkswagen Digital Twins| VWGoA Practicum Capstone

- Built system with **Node.js**, **Python**, **React**, and **RESTful APIs**, aiming to cut iteration time by **30%** and speeding up feature deployment. Automated microservices with **Docker** and **Kubernetes**, cutting setup time by **60%**.
- Reduced costs and boosted efficiency using **AWS CodePipeline** with automated scripts, reduced delivery time by an entire sprint.

### Santorini: Online Board Game

- Designed in UML for an extensible game architecture, using **TypeScript** and **React** for multi-user shared gameplay
- Set up **CI/CD** pipeline on GitHub Actions with Jest automated testing, ensuring code quality by **95%** branch coverage

### Global Game Jam 2024 | Large but not in Charge, BunnyBall, Sun Wukong and NeZha

- Developed **3D games** using **Unity** and **C#**, including **Platformer**, **Action RPG**, **Shooter** with controller support.
- Built engaging UI and interaction logic for each game using **Figma** and **Unity UI**, such as dynamic in-game HUDs, etc.

## Skills

**Languages:** Java, Python, JavaScript/TypeScript, Swift, Dart, Objective-C, C++, C, SQL, HTML/CSS

**Technologies/Frameworks:** React, Redux, Vue.js, Angular, SwiftUI, Flutter, SpringBoot, Django, Flask, Node.js, MongoDB, PostgreSQL, AWS (S3, Lambda, EC2), Heroku, Kubernetes, Docker, Git, Maven, JUnit, Figma, Unity

**Media & Document Processing:** Adobe Illustrator, Adobe Photoshop, Adobe InDesign, Rhino