# Zinan Mu

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## Education

- **Vanderbilt University** Tennessee, USA
  M.S. Computer Science Aug. 2023 – May. 2025
  - **GPA: 4.0/4.0**
- **Zhejiang University** Zhejiang, China
  B.E. Electronic Information Engineering Sep. 2018 – Jun. 2022
  - Also obtained a Second Major Certificate in Computer Science and Technology

## Awards and Honors

**Gold Medal**, Asian Regional Contest of The International Collegiate Programming Contest (ICPC) Nanjing Site . . . . . 2020
**Gold Medal**, China Collegiate Programming Contest (CCPC) Qinhuangdao Site . . . . . 2020

## Experience

- **Research Assistant** Zhejiang University
  Anti-photographing against Screens via PWM Modulation Dec. 2021 – Jun. 2022
  - Developed a novel anti-photographing technique by adjusting the PWM dimming waveform of electronic screens to manipulate the moiré patterns captured by cameras, effectively reducing privacy leaks.
  - Independently conducted all programming and system testing, utilizing Python to implement simulation of the technique and validate its effectiveness.
  - Authored a comprehensive summary paper detailing the project's methodology, results, and implications.

## Projects

- **News Sentiment Analyzer** Mar. 2024 – Apr. 2024
  - Developed an online web application that enables users to input a keyword and analyze recent sentiment trends from multiple news sources.
  - Utilized **Apache Kafka** for efficient message brokering, and utilized **Docker** and **Kubernetes** to facilitate containerized deployment, enhancing workload balancing and resource utilization across various nodes. Utilized **MongoDB** for robust and scalable message storage.
  - Crafted a user-friendly web interface by leveraging **HTML**, **CSS** and **JavaScript** and **React** framework. Developed the backend with the **Python Django** framework and integrated Python **NLTK** library to employ machine learning techniques for accurate sentiment analysis.
  - Successfully deployed the project on Chameleon Cloud.
- **Online consultation platform** May. 2022 – Jun. 2022
  - Developed a comprehensive platform enabling doctor-patient consultations through text, images, and videos. The platform supports account creation and login for doctors, patients, and web administrators, along with features for storing and managing patient medical records.
  - Implemented the frontend in **HTML**, **CSS** and **JavaScript** using **React** framework, and implemented the backend in **Java** using **Springboot** framework. Utilized **MySQL** for managing user data.
  - Managed version control using **Git**.
- **Geometry Tool** May. 2022 – Jun. 2022
  - Created a tool akin to GeoGebra for dynamic geometric shape drawing and analysis on a whiteboard, including parametric equations, intersections, and trajectories.
  - Implement the project in **C++** to and used **OpenGL** graphic library GLFW for GUI.

## Skills

- **Programming Languages:** C++, Python, Java, Rust, C, SQL, HTML, CSS, JavaScript, Matlab
- **Framework/Tools:** Git, Linux, MySQL, MongoDB, Springboot, Django, Docker, Vagrant, Ansible, Kubernetes, ReactJS, VueJS, NodeJS, Bootstrap, jQuery