Zixuan (Amos) Chen

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EDUCATION

Carnegie Mellon University   **Pittsburgh, PA**
Master of Science in Electrical and Computer Engineering - Applied Study   **May 2023**
GPA: 3.72/4.0
Relevant Courses: Foundations of Software Engineering, Foundations of Computer System, Data Science

University of California, Irvine   **Irvine, CA**
Bachelor of Science in Computer Science   **Dec 2020**
GPA: 3.96/4.0
Relevant Courses: Design and Analysis of Algorithms, Data Structure, Machine Learning

SKILLS

Programming Languages: Advanced - Python; Intermediate - C/C++, Java, JavaScript; Basic - CUDA
Technologies: PyTorch, Django, Apache Spark, Node.js, Vue.js, MySQL, MongoDB, Mockito, Git, AWS, GCP

WORK EXPERIENCE

Carnegie Mellon CyLab   **Pittsburgh, PA**
Research Assistant   **May 2022 - Aug 2022**
- Deployed vulnerability detection systems on GCP using TensorFlow and PyTorch-Lightning
- Increased model performance by **19%** through hyper-parameter tuning and variable obfuscation
- Restructured project installation pipeline to create streamlined cross-platform deployment and low coupling

Glinsun AI   **Wuhan, China**
Software Engineer, 3D Simulation Team   **May 2021 - Nov 2021**
- Collaborated with 10 engineers to build a real-time physics engine for cloth simulation using C++ and CUDA
- Implemented particle dynamics and **4** features for the simulator to introduce complex object interactions: fluid, smoke, air-inflation effects, and two-way coupling
- Optimized simulator to reduce data duplication by **50%** through a unified particle model, maintaining a minimum of **60** frames per second when simulating millions of particles in parallel

Python Engineering Intern, Algorithm Team   **Feb 2021 - Apr 2021**
- Developed deep learning based human body measurement system using semi-supervised learning with PyTorch. Achieved **87%** F1-score on dataset consisting of **6000** images

PROJECTS

Emergency Social Network   **Jan 2022 - Apr 2022**
A cloud-based web application providing platform for real-time communication and emergency sheltering information
- Built a REST-compliant application using Express and MongoDB. Led agile sprints to ensure weekly releases
- Designed a framework-less, responsive interface with cross-browser compatibility and dynamic content updating
- Automated CI/CD pipeline and end-to-end testing with **88%** code coverage using Jest and CircleCI

Distributed Web Crawler Management Framework   **Sep 2021 - Nov 2021**
A web application for configuring, deploying and monitoring distributed web crawlers in one-stop
- Designed RESTful APIs using Django for deploying crawler project from local machine to cloud
- Visualized crawler status and crawled data using reusable and interactive front-end components implemented with Vue3
- Established a library in Python to generate and customize multi-threaded web crawlers from templates
- Obtained **1 million** images from multiple websites with **one quarter** of scheduled data collection time

Fabflix.com   **Apr 2020 - Jun 2020**
An e-Commerce platform for movies
- Built a scalable and reliable web service with Java and MySQL and hosted on AWS
- Reduced response time from **300ms** to **100ms** through Master-Slave replication and connection pooling
- Created an Android application to support complex CRUD operations and a complete experience for mobile users