Zixuan (Amos) Chen

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EDUCATION

Carnegie Mellon University — **Mountain View, CA**
Master of Science in Software Engineering — **Jan 2022 - May 2023 (Expected)**
Relevant Courses: Software Engineering, Computer System, Data Science, Verification and Testing

University of California, Irvine — **Irvine, CA**
Bachelor of Science in Computer Science; Cumulative GPA: 3.96/4.0 — **Sep 2017 - Dec 2020**
Relevant Courses: Algorithms, Data Structure, Data Management, Information Retrieval, Machine Learning

SKILLS

Languages: Python (Proficient), C/C++ (Familiar), Java (Familiar), JavaScript (Familiar), CUDA (Prior Experience)
Technologies: PyTorch, Node.js, Express.js, Vue.js, MySQL, MongoDB, Django, Git, JUnit, Mockito, AWS, GCP

WORK EXPERIENCE

Carnegie Mellon CyLab — **Pittsburgh, PA**
Research Assistant — **May 2022 - Aug 2022**
- Deployed deep learning based vulnerability detection architecture on GCP and achieved **99% accuracy** on JavaScript function dataset
- Increased **19%** of model performance through hyper-parameter tuning and variable obfuscation
- Streamlined architecture installation process by developing and deploying a cross-platform training pipeline; restructured project dependency to achieve 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 simulating garments in C++/CUDA
- Implemented **4 new features** (fluid, smoke, air-inflation effects, and two-way coupling) for a position-based particle solver, introducing more complex interactions in cloth simulation
- Optimized simulator to reduce data duplication by **50%** through a unified particle model, maintaining a minimum of **60 fps** when simulating millions of particles simultaneously

Python Engineering Intern, Algorithm Team — **Feb 2021 - Apr 2021**
- Developed a deep learning based human body measurement application for a custom clothing service using PyTorch; trained through semi-supervised learning, tested with real users' photos, and improved categorization precision by **11%**

PROJECTS

Emergency Social Network — **Jan 2022 - Apr 2022**
A cloud-based web application providing platform for real-time communication and emergency sheltering information
- Led a team of 3 engineers to build a REST-compliant application utilizing Node, Express and MongoDB
- 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 to safeguard incremental development process

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 with Django for cloud platforms to easily deploy crawler projects from local machines
- Visualized crawler status and crawled data using reusable and interactive front-end components implemented with Vue3
- Established a template library in Python to generate and customize multi-threaded web crawlers
- Acquired **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