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

University of California, Irvine **Irvine, CA**
Bachelor of Science in Computer Science **Dec 2020**
GPA: 3.96/4.0 | Summa Cum Laude

SKILLS

Programming Languages: Python, Java, JavaScript, C/C++, CUDA
Technologies: PyTorch, Django, Apache Spark, Node.js, React.js, MySQL, MongoDB, Mockito, Git, AWS, GCP

WORK EXPERIENCE

Volvo Cars **Gothenburg, Sweden**
Global Graduate - Software Engineering **August 2023 - Present**
- Led the development of an AI-powered tool chain to optimize the process of debugging logs in Volvo's CI/CD pipeline for car software. Reduced manual debugging time by **80%**, significantly accelerating the development cycle.
- Contributed to the design and development of the next-generation infotainment system for Volvo's new car platform.
- Focused on optimizing the performance of Volvo's car shopping website. Reduced First Contentful Paint (FCP) by **35%** and overall page load time by **20%**, improving customer experience and increasing site engagement.

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