**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 secondwhen 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 Expressand 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