Alex Zheng

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EDUCATION

University of California, Los Angeles (UCLA) **Los Angeles, CA**
Henry Samueli School of Engineering – B.S. Computer Science *September 2023 - June 2026*

- **Relevant Coursework:** Data Structures and Algorithms (C++), Computer Systems and OS (x86-64), Software Construction Laboratory, Algorithm Complexity, Multivariable Calculus I & II, Linear Algebra, Discrete Structures, Differential Equations

SKILLS

Coding Languages: Python, C++, Java, SQL, HTML / CSS, x86-64 Assembly, JavaScript, Typescript, Bash, SysML
Skills: AWS, Google Firebase, Django, React & React Native, MongoDB, Node.js, MERN stack, Bootstrap, Git & GitHub, Modeling & Simulation, Virtualization, Cloud Computing, Server Management, Agile/Sprint Methodology
Operating Systems: Windows, Linux, MacOS, Android, iOS

EXPERIENCE

Undergraduate Student Engineer **Boston, MA**
Charles Stark Draper Laboratory *June 2024 - September 2024*

- Developed a new SysML meta model for the Trident II missile GNC reentry system and created Jython scripts to query and ensure strict adherence to the meta model during development in compliance with DoD standards.
- To ensure consistency in all subsystems, created a universal template to follow in developing SysML models.

Software Developer Intern **Gaithersburg, MD**
National Institute of Standards and Technology - Center for Neutron Research *June 2022 - August 2023*

- *Summer 2022*: Enhanced the Python-based software SasView for analyzing Small Angle Neutron Scattering (SANS) data by integrating functionality to calculate and display Beta(Q) values and Radius of Gyration.
- *Summer 2023:* Developed a SANS model generation program in C to simulate SANS patterns of anisotropic proteins, utilizing GPU for enhanced performance. New simulation capabilities optimize the use of scarce neutron beam time and increase accuracy in deriving properties of proteins.
- Implemented multithreading in the software to increase computational speed and improve GUI responsiveness. 20,000 atoms simulated against each other in 5 minutes after improvements.

tinyCV.co - *Creator & Project Lead* Sample: https://tinycv.co/az

- Creator of an AWS-hosted Django platform for clients to create and share professional personal websites with a concise and professional domain name along with Google Analytics for client insights.
- Manage Ubuntu/Linux server with Nginx reverse proxy from port 8000 to HTTP/HTTPS ports 80/443 for secure connections along with an Amazon-issued HTTPS/SSL certificate obtained through DNS forwarding.
- As Project Lead of a 5-person team, used GitHub, Figma, and Trello for collaboration and workflow management.

UCLA Association for Computing Machinery (ACM) - *Internal Board Dev Team Officer*

- Manage general internal development needs, including developing our website which won best chapter website from a pool of over 680 different international student chapters.

UCLA Creative Labs – *Board Officer*

- Provide technical expertise and assistance on projects, including multiple React Native apps.

Awards: Maryland State National Merit Finalist, IB Diploma Recipient, AP Scholar with Distinction, MATHCOUNTS State Head Coach Certificate of Achievement, Vicki Van Vorst Memorial Scholarship, Anthony M. Natelli Scholarship

PROJECTS

Enterprise Server Virtualization Solution

- Set up an enterprise-level server solution using a Type 1 Hypervisor, concurrently running multiple Linux, MacOS and Windows virtual machines for optimized performance and seamless access to multiple operating systems.
- Created robust virtualization and cloud computing ‘Mini-AWS’ environment using Ubuntu VMs.

Squirtle

- Web application built from scratch using the MERN stack to coordinate ride sharing between university students, resulting in a 40% average reduction in rideshare costs.
- Created and integrated the backend with the frontend, including authentication, routes, and MongoDB database.