ALEX ZHENG

Computer Science Major

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(240) 751-7540

Frederick, MD

tinycv.co/az

EDUCATION

University of California, Los Angeles

Samueli School of Engineering – Computer Science

September 2023 – June 2026 (Expected)

Los Angeles, California

GPA: 3.929

Urbana High School

International Baccalaureate Diploma Recipient

September 2019 – May 2023

Urbana, Maryland

GPA/WGPA: 4.0/4.8831

SKILLS

Python	C++
Django	React /React Native
Java	HTML / CSS
JavaScript	Bootstrap
Node.js	Git / GitHub
SQL	Google Firebase
Modeling	Simulation

COURSEWORK

Intro to Computer Science (C++)
Data Structures and Algorithms (C++)
Calculus of Several Variables I
Calculus of Several Variables II
Linear Algebra and Applications
Introduction to Discrete Structures
Statistics

AWARDS

01/2023

Maryland State National Merit Finalist

Advanced to Finalist standing in the National Merit Scholarship Program of 2023

03/2023

MATHCOUNTS Competition Series State Certificate of Achievement

Awarded for exceptional commitment and outstanding achievement in fostering excellence in mathematics as the Head MATHCOUNTS Coach from Urbana Middle School

WORK EXPERIENCE

National Institute of Standards and Technology (NIST) - Center for Neutron Research (NCNR)

SHIP Software Developer Intern

June 2022 – August 2023 Gaithersburg, Maryland

Overall-

- Fulltime 40hr/week intern for 16 weeks during the summers of 2022 & 2023 and non-contiguous work during the 2022-23 school year at NIST.
- Utilized GitHub to manage version control and collaborated on projects, gaining proficiency in Git and version control practices.

Summer 2022-

- Enhance and expand the Python program SasView to facilitate advanced analysis of Small Angle Scattering (SAS) data.
- Expanded SasView's capabilities by integrating functionality to calculate and graph Beta(Q) values and the Radius of Gyration of samples.

Summer 2023-

- Developed a C model generation program that allows for GPU utilization and simulates the Small Angle Neutron Scattering (SANS) patterns of proteins.
- Calculate the structure and interactions between proteins in solution by comparing the simulated pattern to the scattering patterns obtained from real-world scattering in the NCNR SANS instruments.
- Implemented multithreading to boost computational speed while maintaining the responsiveness of the graphical user interface (GUI).
- Developed accurate and efficient simulation of SANS patterns of anisotropic proteins, conserving very limited neutron beam time on NCNR instruments.

Projects

SureFashion (WIP)

Creator

- Built a responsive Django web-application using HTML/CSS, Bootstrap, and JavaScript designed to allow users to curate wardrobes, explore outfits, and experiment with styles.
- Implemented traditional user authentication and encryption mechanisms to ensure robust security measures.
- Furthermore, integrated OAuth2 using Google Cloud Authentication & Credentials API to enhance user security and streamline access protocols.
- Employed an SQLite database for efficient data management and storage.
- Utilize the Serply REST API to incorporate Google Image search functionality.
- Implemented robust password validation and securely hashed passwords.

FitTogether – UCLA Creative Labs

Developer

- Cross-platform fitness app utilizing the spaCy machine learning model to match like-minded individuals based on their fitness preferences and foster inclusivity.
- iOS and Android apps simultaneously built using React Native and Node.js
- Managed user data and authentication securely using Google Firebase
- Leveraged Github for efficient team collaboration and developmental workflow
- Integrated Oauth2 using Google Cloud Authentication & Credentials API connected to React Native