Alexander Lio

linkedin.com/in/alexanderlio902 | alio@ucsc.edu | github.com/alexander-lio

EDUCATION

University of California, Santa Cruz **Santa Cruz, CA**

Bachelor of Science in Engineering in Computer Science *Expected 2026*

Cumulative GPA: 3.53/4.0, College Scholar

Coursework: Artificial Intelligence, Probability & Statistics, Machine Learning Basics, Data Structures & Algorithms, Computer Architecture, Principles of Computer Systems Design, Computer Systems & C Programming

EXPERIENCE

Baskin Engineering: CSE 101, Data Structures and Algorithms **Santa Cruz, CA**

Undergraduate Teaching Assistant *January – April 2024*

- Facilitated office hours as an outlet for students to debug and understand abstract data structures and algorithms
- Developed with C/C++ on Unix VMs and Docker Containers/Images for testing scripts and runtime constraints
- Instructed students on the derivation of Big-Oh analysis mathematically through limits and conceptually with PAs
- Integrated CI/CD on GitLab to teach branch control and handle grading for the test scripts.

Baskin Engineering: CSE 16, Discrete Mathematics **Santa Cruz, CA**

Undergraduate Teaching Assistant *April - June 2024*

- Held office hours for students to grasp topics of logical and discrete based reasoning, and logical proofs.
- Assisted students with basic programming to replicate simple combinatorics and permutations for labs.
- Evaluated and graded student work, offering detailed comments to improve their understanding and performance.
- Created practice problems and study guides to reinforce key concepts and aid students in preparation for exams

ACTIVITIES/PROJECTS

SpotiSearch, *Personal Project Full Stack Developer* *June - July 2024*

- Developed a dynamic web application using Flask with Python for backend and React with Javascript for frontend
- Deployed and used SpotifyAPI to allow listeners to find unique, new music/artists with ease of one button.
- Maintained a SQLAlchemy database and constructed SpotifyAPI endpoints and Python/JSON objects with Flask.
- Built a post and fetch system using update callbacks making the UI automatically refresh with new data.

Code For Fun, *Intern/TA* *July - September 2022*

- Led group instruction, compiling low-level programming abstractions of computers, code, and fundamentals
- Created interactive exercises and projects through Scratch and Minecraft to stimulate learning.
- Communicated the foundations of programming, incorporating basic skills into engaging team-building activities.
- Inspired innovation within young minds through demonstration and explanation in 100+ kids and teens.

Inspirit AI, *Student/Intern* *July - August 2021*

- Implemented Python's scikit-learn, numpy, matplotlib, and pandas libraries to construct basic KNN, CNN models
- Worked with a basic skin cancer detection, classification type Convolutional Neural Network with students and mentors proving an accuracy of 70% and an AUC of 93.7% in its classification.
- Assisted in cleaning datasets, and applied data augmentation to enhance the model's generalization capabilities.
- Compiled and presented comprehensive reports and visualizations of the model's performance metrics

SKILLS

Programming Languages: Python, C/C++, Java, HTML, Bash, RISC-V Assembly, SQL, CSS, JavaScript

Frameworks/Tools: Git, Linux, Docker, Bazel, Shell Script, Make, LaTeX, Flask, SQLAlchemy, React