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

EXPERIENCE

UCSC Baskin Engineering - Data Structures & Algorithms   **Santa Cruz, CA**
Undergraduate Teaching Assistant   *January 2024 - Current*
- 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.

UCSC Baskin Engineering - 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, Python, and Java in 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 AI/ML Developer*   *July - August 2021*
- Implemented Python scikit-learn, numpy, matplotlib, and pandas libraries to construct basic KNN, CNN models
- Developed a skin cancer detection, CNN 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: Go, Python, C/C++, Java, Bash, RISC-V Assembly, SQL, CSS, JavaScript, HTML
Frameworks/Tools: Git, Linux, Docker, Bazel, Shell Script, Make, LaTeX, Flask, SQLAlchemy, React, scikit-learn, AWS, VMWare Workstation/Fusion, Oracle VirtualBox