Steven Bash (CV)

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EDUCATION

University of California, Los Angeles (UCLA) — **Los Angeles, CA**
B.S. in Computer Science; GPA: 3.82 (as of Summer 2024) — *December 2024*

Moorpark College — **Moorpark, CA**
A.S. in Computer Science, Physics, Mathematics, Natural Sciences, & Humanities; GPA: 4.0 — *May 2022*

SKILLS & RELEVANT COURSES

Languages & Technologies: Python (PyTorch, Selenium, Pandas), JavaScript (TypeScript, React, NextJS, Node.js, Express.js), C++, Java, Go
Skills & Services: GitHub, Vercel, AWS Amplify, Postman, Mailchimp, Microsoft Azure & Intune, Adobe Creative Cloud
Courses: Software Engineering, Data Management Systems, Web Development, Computer Security, Data Science, Statistics

WORK EXPERIENCE

Lead Resident Assistant, UCLA — **September 2023 – Present**

- Supervise and ensure safety of over 60 residents living in an on-campus dormitory through community tours and resident check-ins
- Foster community growth through programming events to promote social and academic success of residents
- Mediate and resolve conflicts while upholding on-campus housing regulations
- Develop and maintain community website for residents to have easy access to residential life and campus resources
- Employ innovative communication and marketing strategies to promote and increase engagement and resident turnout at programs
- Post event flyers and updates on community social media platforms
- Write monthly email newsletters containing announcements, upcoming events, campus resource spotlights for residents
- Draft formal incident reports to document housing policy violations and resident interactions, such as roommate conflicts

Information Technology Specialist, El Camino Real Charter High School (ECRCHS) — **February 2020 – September 2022**

- Lead programmer on team of 8, responsible for developing Python scripts and Web Applications; selected projects below
- Managed 4,000 Windows devices with Microsoft Intune; managed users and applications with Microsoft Azure Active Directory
- Developed clear, concise, and effective documentation and video tutorials for 300 staff, 3700 students, and parents
- Maintained integrations between Canvas LMS, Aeries SIS, & other third-party systems
- Provided support to staff, students, & parents with Canvas LMS, Aeries SIS, & other systems as issues arose
- Welcomed incoming families and presenting technology-related information during yearly device distribution to new students; developed online modules with videos, written documents, and interactive activities for new students to familiarize themselves with school technology
- Led trainings for teachers to make technological processes easy to understand
- Designed graphics and edited videos for internal and external school marketing and communications
- Supported student activities with technology needs and by acting as a liaison with news outlets for press coverage
- Maintained duties from previous “Student Worker” Role

Student Worker, El Camino Real Charter High School Technology Office — **June 2018 – February 2020**

- Collaborated with technology team to provision 4000 Lenovo 300e laptops for distribution to students for 1:1 laptop initiative
- Provided software and hardware support to staff and students
- Designed & maintained a monthly calendar on the desktop background for all devices
- Provisioned new and refurbished devices with Windows 10 Education operating system
- Managed device policies using Microsoft Azure and Intune
- Presented technology-related information to new families during yearly device distribution new students

TECHNICAL PROJECTS

Touch-Secure Bluetooth | UCLA — **October – December 2024**

- Researching with a team of 3 to develop and implement a secure protocol for Bluetooth connections using NFC

Open-source Package Maintainers Research Project | UCLA — **October – December 2024**

- Researching with a team of 6 to develop a LLM to detect malicious commit patterns to open-source projects

CommuniSpace | UCLA — **April – June 2024**

- Worked on a team of 6 to develop a minimum viable product application focused on enhancing wellness through physical space
- Developed application logic, figma template, and full business plan; Pitched MVP to industry professionals at Demo Day

Electroencephalography (EEG) Signal Classification | Python, PyTorch | UCLA — **Feb 2024 – Mar 2024**

- Implemented and trained various deep learning models, including Convolutional Neural Networks (CNN), Convolutional Recurrent Neural Networks (CRNN), and Convolutional Transformer (Conformer) models, tailored for EEG signal classification.
- Utilized the BCI Competition IV Dataset 2a for model training and validation, achieving test classification accuracies that exceeded the traditional benchmark of 69.43% by at least 1.5%.
- Implemented nontrivial data augmentation and a novel CNN architecture to reach a peak test accuracy of 74.97% over 50 epochs.

TCP Network Simulator | C | UCLA — **Dec 2023**

- Engineered a Reliable Data Transfer (RDT) and Congestion Control (CC) protocol over UDP in C, ensuring data integrity and efficiency in unstable network environments.

ClubHub | NextJS, Firebase | UCLA **March 2023**

- Led a team of 5 utilizing a time-boxed development cycle to create a comprehensive full-stack web application for streamlined club engagement, providing a centralized student experience for managing involvement in organizations and events on campus
- Implemented Agile methodologies with Git for efficient project management, emphasizing iterative progress.

IEEE PocketRacers | UCLA **October 2022 – June 2023**

- Worked on a team of 3 to assemble and program an autonomous vehicle that can navigate a racetrack without human assistance
- Programmed a Raspberry Pi with Python for computer vision and to control servo motors

Bruin.LA **December 2022 - Present**

- Developed a website with NextJS and TailwindCSS to post protected links for UCLA students
- Integrated with UCLA Google Workspace using NextAuth to restrict access to areas of the site to UCLA students

UCLA AI Safety Intro Fellowship **September – December 2022**

- Meet weekly with cohort to discuss artificial intelligence and how to approach its use and research with regards to safety of user data and with integration with existing and new applications

Single Digit Image Classifier (Machine Learning) | UCLA **November 2022**

- Collaborated on a team of 2 to develop and train a neural network digit classifier on the MNIST dataset with PyTorch
- Achieved 97.68% accuracy using four fully connected layers, the Cross Entropy Loss function, and the Adam optimizer
- Presentation to discuss design rationale, layers used, how we trained it, iterations, and our training/testing accuracies

Block-E the Dancing Robot, 2022 HAcK at UCLA Accelerator, First Place Winner | UCLA **July 2022**

- Designed a robot capable of driving through a field of play, picking up/carrying blocks, & dancing in a 72-hour hackathon
- Worked on team of 3 as programming lead; responsible for developing code for Arduino Uno and ESP32 boards
- Designed the electrical configuration for connecting motors and LCD display to the Arduino Uno and ESP32
- Submitted design review presentation and prototype for HAcK 2022 competition

Verkada Integration with Aeries SIS | ECRCHS **May 2022**

- Programmed with Python, Aeries SIS REST API, Verkada REST API, Postman for API testing
- Implemented ability to automate daily import of student photos from SIS to Verkada "People of Interest" feature for facial recognition with the camera system
- Integration enabled school security to quickly find and identify students involved with fights and bullying incidents on campus

MyECR, my.ecrchs.net | ECRCHS **March 2022**

- Designed portal for 5000+ stakeholders with NextJS (React), NextAuth, Framer Motion, Tailwind CSS, & Microsoft Azure AD SSO for easy access to resources and applications & to simplify ECR's single-sign-on system
- Implemented role selection (staff, student, parent, etc.) and search features
- Deployment resulted in 90% less tech tickets related to users finding, accessing, and signing into applications; redirected $7,000 back to annual budget for other educational expenses

COVID Alert | ECRCHS **October 2021**

- Created system with Python, SQL, Web Scraping, Postman for API testing, Litmus to design email templates, & SMTP via Gmail to email stakeholders not in COVID Testing compliance and email school administration with a daily summary
- Enabled swift action when 460 positive cases were identified, which kept the case rate under 1% during the school year; saved valuable time through automated data collection and distribution

Mailchimp Contact Sync (Integration with Aeries Student Information System) | ECRCHS **July 2020**

- Developed script with Python, Aeries SIS REST API, Mailchimp REST API, & Postman for API testing to add student and parent contact information to Mailchimp platform; relevant demographic and program information added to each student's profile
- Automated manual process; achieved 100% accuracy in mailing list via daily updates; created ability to send targeted emails

Certifications

- Aeries SIS - District Coordinator Certification – Expert, Aeries Software November 2021
- PCEP – Certified Entry-Level Python Programmer, OpenEDG Python Institute April 2020

LEADERSHIP EXPERIENCE & ACTIVITIES

Actions Speak Louder Than Guns Campaign, Los Angeles City Hall **July 2018 – April 2023**

- Created the Actions Speak Louder Than Guns Campaign (louderthanguns.org) with professional design agency, Omelet
- Promoted voter registration & interacted with March For Our Lives & Brady Campaigns
- Facilitated legislation & gun violence prevention discussions with new cohort of students as a 2nd year Fellow,
- Served as lead for content planning team for large-scale event
- Invited to return in 2022 to continue and advance work started before the COVID-19 pandemic

Moorpark College President's Student Leadership Forum August 2021 – May 2022
USC DTEM (Disruptive Technology with an Entrepreneurial Mindset) Summer Class June 2021