

KEEGAN VOGAN

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EDUCATION

Bachelor of Science, Computer Engineering, University of California, Santa Cruz

Relevant Coursework: Python, C, C++, Logic Design, MIPS Assembly, Discrete Mathematics, Data Structures and Algorithms, Computer Systems Design, Computer Architecture, Networking

SKILLS

Technical Skills Python, C, C++, Virtual Networking, Git, Linux, Docker, HTML, CSS, JavaScript, React, Express.js, Node.js, Verilog

Soft Skills Understanding, Resilient, Self-Motivated, Effective Communicator, Team-Oriented

RELEVANT EXPERIENCE AND PROJECTS

Web Development

- Launched a **Portfolio Website** with Firebase, HTML5, CSS, and JavaScript.
- Developed **RESTful APIs** with Node.js, Express.js, and Passport.js for secure user authentication and project management.
- Created a responsive **Frontend** with React and Tailwind CSS; integrated MongoDB for real-time collaboration and team project management.

Graphics Subsystem for Emulation

- Created a **GPU subsystem** class using the SDL2 library to render decoded pixel data from VRAM, enabling real-time graphical output for the emulator.
- Leveraged **Docker** containers for isolated Linux environments; utilized **Git** for CI/CD.

Python Development

- Built **local web servers** using Python's socket module for direct client-server communication.
- Developed **object-oriented modules** with recursive functions and data structures, including stream data processing algorithms for real-time motion detection.

Networking

- Constructed **virtual LANs** with error-control methods, routing algorithms, and congestion control.
- Designed **SDN controllers and firewalls** for virtual networks; developed a multi-threaded HTTP server in Python and C; performed network packet analysis with Cisco Packet Tracer and Wireshark.

PRIOR WORK EXPERIENCE

- **TechKnowHow Robotics & Coding Camps**, Lead Instructor June 2023 - August 2023
 - Led instructional sessions in robotics and coding, improving camper engagement and learning outcomes.
- **UC Santa Cruz Fleet Services**, Student Auto Attendant April 2021 - January 2023
- **Sprouts Farmers Market**, Produce Clerk April 2020 - February 2021
- **Delta Bowl**, Customer Service August 2018 - March 2020

EXTRA-CURRICULAR ACTIVITIES

- **Team Captain** for the UC Santa Cruz Rocket League E-Sports team, competing in the national CCA Open 2022-23 tournament.
- **Participant** in 2023 and 2024 CruzHacks Hackathon