

# Gavin Ruane

<https://www.gavinruane.me/>

University Email: [gjuane@calpoly.edu](mailto:gjuane@calpoly.edu)

General Email: [me@gavinruane.me](mailto:me@gavinruane.me)

Mobile: +1-650-291-1161

## EDUCATION

---

- **California Polytechnic State University** San Luis Obispo, CA  
*Bachelor of Science in Computer Engineering; GPA: 3.6, Dean's List Recipient* *Sep. 2022 – Present*

## WORK EXPERIENCE

---

- **Computer Science / Software Engineering Department** San Luis Obispo, CA  
*Instructional Student Assistant for CSC 453 (Introduction to Operating Systems)* *Sep. 2025 – Present*
  - **Curriculum Design and Grading:** Graded all assignments, projects, and quizzes; maintained the course gradebook; created outlines and instructions for programming projects.
  - **Student Communications:** Assisted students with programming assignments; responded to questions about course materials and concepts; served as a liaison between students and the professor.
  - **Classroom Management and Leadership:** Led and managed peer-led learning sessions in which I taught concepts to students; facilitated discussions with students about course topics; guided two assistant leaders in running these learning sessions.
- **Cal Poly Northrup Grumman Lab** San Luis Obispo, CA  
*Developer/Administrator (unpaid position)* *Jan. 2025 – Present*
  - **Dynamic Web Development:** Developed a web application to organize support tickets for the NG Lab server; used various third-party and open-source Python modules to add functionality.
  - **Database Management:** Learned and applied the basics of MySQL database management; used updates and queries to populate aforementioned web application with data.
  - **Software Engineering:** Deployed a production-ready Flask application; developed software engineering skills by designing a major professional project without significant guidance or instruction.
- **San Mateo Parks and Recreation Department** San Mateo, CA  
*Field Monitor, Data Analyst* *Jul. 2023 – Sep. 2023*
  - **Customer Service:** Communicated with park tenants and clients to facilitate safe and responsible usage of city fields; answered questions about city facilities and resources.
  - **Data Analysis:** Collected data on park rental usage and occupation; created extensive reports and visuals using Microsoft Excel; communicated results to supervisors.

## TECHNICAL PROJECTS

---

- **x86-64 Kernel:** Created a kernel for the x86-64 architecture in assembly and C; wrote drivers for VGA, keyboard, and disk; designed memory management system (malloc() and paging).
- **Fabrication Table Refurbishment:** Working on refurbishing a non-functional fabric table for Wolfpack Gear Inc; employed product management skills (waterfall and agile) with capstone team.

## SELECTED COURSEWORK

---

- **CSC 454: Implementation of Operating Systems:** Created kernel in C/x86 ASM; developed custom hardware drivers; studied Intel architecture
- **CPE 464: Introduction to Computer Networks:** Configured switches and routers in a laboratory; used POSIX/Unix sockets and C in networked programs
- **CSC 437: Dynamic Web Development:** Using TypeScript and Lit to develop a client-rendered web app; employed MongoDB (and JSON) for databases.
- **CPE 316: Microcontrollers:** Used STM32 MCU architecture; designed and implemented a piano keyboard using MCU; interfaced with peripherals over I2C and SPI.

## SKILLS

---

- **Programming Languages:** C, Python, C++, JavaScript/TypeScript, HTML/CSS, L<sup>A</sup>T<sub>E</sub>X, Java, RISC-V and x86 assembly, shell scripting
- **Technical Skills:** Linux, operating systems, x86 system architecture, frontend/backend web development, STM32 (ARM) microcontroller architecture, Incus/LXC and Docker, Azure, Git
- **Other Qualities and Talents:** Strong and mature writer; visually creative; proponent of good design; personable and communicative; dedicated and responsible to all tasks; professional and discreet