PIERRE BEURTHERET

CONTACT

cbeurtheret@ucsd.edu

707-235-2940

LinkedIn | GitHub

EDUCATION

UC San Diego

B.S. Computer Engineering

September 2021 - June 2023

Major GPA: 3.855

SKILLS

SOFTWARE

Design, Web Development, Project Management, Leadership

TOOLS

Git/GitHub, Linux, Microsoft Visual Studio Code, Intellij IDEA, Bash/Shell, JUnit, Jest, Node.js, Godot

LANGUAGES

C/C++, x86/ARM Assembly, Python, JavaScript, HTML5, CSS3, Java, SystemVerilog, GDScript

HARDWARE

Digital Logic, Computer Architecture, Analog Circuits, Filters, Linear Systems, KiCad, SPICE, Arduino, Raspberry Pi

LANGUAGES

English, French

PROJECTS & EXPERIENCE

RED PITAYA HACKATHON

Stranded in Space with Red Pitaya, February 2023

Competed in a hackathon centered around the Red Pitaya STEMlab 125-14, a multifunction measurement tool based on Xilinx Zynq SoC. Assembled and soldered two hat boards, integrating IR LEDs and IR receivers to enable signal transmission and reception. Leveraged Red Pitaya's Python API to access the signal acquisition and generation functions of the FPGA, enabling full-duplex Morse code communication. Developed a web server in Python using FastAPI to create a styled frontend for sending/receiving messages. Collaborated in a small team to complete the project within a 24-hour timeframe. Our work is on GitHub.

JOB MANAGEMENT WEB APPLICATION

CSE 110: Software Engineering, UCSD, October 2022 - December 2022

Led a team of 8 students to design and create a web app. Managed several 1-week sprints following an agile methodology. Scope was changed dynamically to maintain quality given the short time frame. Created a single-page interface for displaying, modifying, sorting, and searching entries, implemented with JavaScript, HTML, and CSS. Set up CI/CD pipeline with GitHub Actions and Pages. Wrote unit and end-to-end tests using Jest and Puppeteer. Explored and applied software engineering practices and discipline. The source code is on GitHub and a live deployment is available.

TRAFFIC LIGHT CONTROLLER

CSE 140L: Digital Systems Laboratory, UCSD, July 2022

Created a circuit for signaling 3-way traffic with advanced behavior through a 30-state deterministic finite automata implemented in SystemVerilog, then simulated and tested using Mentor Questa. The source code is on GitHub and a testing environment for the project is live on EDAplayground.

MULTIPLAYER GAME

Personal Project, March 2021 - June 2021

Created a first-person, 6 degrees of freedom, asteroid field shooter with client-server networking. Focused on user experience and customization with functional and responsive UI, and full control over asteroid field procedural generation and gameplay parameters. Created using the Godot game engine and written in GDScript.

AUTOMOTIVE ELECTRONICS INTERN

Bearded Gnome Engineering, Santa Rosa, CA, August 2019 - August 2021

Went through research, design, and experimental phases on a digital gauge cluster display, telemetry computer, innovative implementation of an open-source engine management unit, and wiring harness. Read technical documentation, pinouts, wiring diagrams. Validated electrical continuity and signal integrity. Calibrated sensors and tested engine operation.