

# PIERRE BEURTHÉRET

## CONTACT

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## EDUCATION

UC San Diego

B.S. Computer Engineering

September 2021 - June 2023

Major GPA: 3.882

## SKILLS

### SOFTWARE

Design, Web Development,  
Project Management,  
Leadership, Machine  
Learning, Operating  
Systems, Graphics, Security,  
Product Engineering

### TOOLS

Git/GitHub, Linux,  
Microsoft Visual Studio  
Code, IntelliJ IDEA,  
Bash/Shell, JUnit, Jest,  
Node.js, Godot, Virtual  
Machines, Docker, Jupyter

### LANGUAGES

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

## HARDWARE

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

## LANGUAGES

English, French

## PROJECTS & EXPERIENCE

### WINNER, TRITON NEUROTECH CHALLENGE

[H.A.R.D. Hack](#), April 2023

Led a team of 3 in San Diego's largest hardware focused hackathon. Rapid research, prototyping, and iteration was necessary to develop a winning project within 24 hours. Created an amplification circuit to boost faint signals from an electromyograph. Used Python to play the signal as real-time audio. Our work is on [GitHub](#).

### 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 dynamic 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.