PIERRE BEURTHERET

CONTACT

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EDUCATION

UC San Diego

B.S. Computer Engineering

Sep. 2021 - Jun. 2023

Major GPA: 3.882

SKILLS

SOFTWARE

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

TOOLS

Git/GitHub, Linux, Microsoft Visual Studio Code, Intellij IDEA, MATLAB/Simulink, Bash/Shell, JUnit, Node.js, Virtual Machines, Docker, Jupyter

LANGUAGES

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

HARDWARE

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

LANGUAGES

English, French

OBJECTIVE

Right after graduating from high school two years early, I started at the Santa Rosa Junior College, so that I could continue working on automotive projects while progressing towards a degree. After two years I transferred to UCSD, where I acquired valuable skills in cross-functional team leadership, product engineering, and user experience design. Throughout my academic journey, I've taken four or five courses concurrently, including summers, in order to graduate and get into industry as early as possible.

PROJECTS & EXPERIENCE

WINNER, TRITON NEUROTECH CHALLENGE

H.A.R.D. Hack, Apr. 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, Feb. 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, Oct. 2022 - Dec. 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, Jul. 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.