Brandon Lo

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EDUCATION

University of California, Los Angeles (UCLA)   **Los Angeles, California**
Bachelor of Science in Computer Science and Engineering - GPA: 3.78   Expected June 2025
- **Relevant coursework:** Algorithms, Software Construction, Object-Oriented Programming, Operating Systems, Digital Logic and Design Systems, Circuits and Design, Technology Management and Econ, Complete Mathematics and Physics

SKILLS

Technical Skills: Java, C++, C, C#, Python, HTML, CSS, JS, Verilog, Backend Development, Arduino, Circuit Design
Interpersonal Skills: Communication, Teamwork, Organization, Leadership, Awareness, Adaptability, Building Relationships
Interests: AI, Web Development, Systems Software, Quant Trading, Research, Music, Star Wars, Baseball, Gym, Eagle Scout

WORK EXPERIENCE

Stellant Systems - Aerospace and Defense Products   **Torrance, California**
Software Engineering Intern   June 2023 - September 2023
- Developed software solutions using C# and Visual Basic to reprogram the continuity isolation station, used in effectively identifying and resolving current leakage issues 23% faster in all traveling wave tubes manufactured in the U.S.
- Automated air gauge system using PHP/MSSQL, facilitating data integration of tube diameters into a centralized database

Sensing and Robotics for Infrastructure Lab - UCLA Research Lab   **Los Angeles, California**
Tightly-Coupled, Graph-Based DVL/IMU Fusion Project Lead   April 2023 - September 2023
- Designed and implemented a custom DVL factor by architecting a robust class structure derived from existing preintegration classes within GTSAM, enhancing the accuracy of sensor fusion algorithms
- Created unit tests using C++ to validate the factor's functionality and ensure reliable performance in real-world scenario

Qubit Laboratory - UCLA Research Lab   **Los Angeles, California**
Biocoils Project Lead   September 2022 – June 2023
- Led a team in constructing biocoils and leveraged Arduino to precisely measure magnetic fields in multiple dimensions
- Constructed Python code to intelligently regulate current flow in the biocoils, effectively negating magnetic forces and enabling advanced experimental setups

FitDrive - Fitness Trainer/Client Application   **Toronto, Canada**
Software Engineering Intern   June 2020 – July 2020
- Implemented UI/UX design and backend development using HTML and Swift, resulting in seamless integration of frontend and backend functionalities (timer, calendar, touch-free interface) and improved user engagement
- Administered user interviews to produce business plan presented the product to 3 venture capitalists and 2 professors

STUDENT ORGANIZATION EXPERIENCE

Rocket Project at UCLA - *Project Ares Software and Prometheus Avionics Lead*   September 2022 - Present
- Utilized EagleCad to design and optimize rocket components and PCB boards, integrating live flight data (altitude, orientation, positioning) for real-time monitoring and analysis
- Built and maintained code that powers ground systems microcontrollers, DAQ GUI, and avionics GUI (C, C++, Python)

PROJECTS (https://github.com/brandonlo11) (https://brandonlo11.github.io/Portfolio-Website/)

Custom AI Chatbot   July 2023
- Developed AI chatbot using LlamaIndex and GPTIndex, incorporating custom knowledge bases for personalized interactions and leveraging GPT-3's language model for human-like responses (Python)

BSwipe Website   March 2023
- Leveraged the MERN technical stack to develop and deploy a fully functional website, featuring dynamic data processing, efficient client-to-backend data uploading, and server-side data search capabilities (MongoDB, Express.js, React, Node.js)

Line Following Car   May 2022
- Engineered an Arduino-based line following car, demonstrating proficiency in sensor integration and control systems
- Applied PID controller, sensor readings, wheel encodings, and more to enable precise navigation along curved tracks

Verilog Binary Number Adder   May 2022
- Created an ALU, test bench, and other submodules in Verilog using only binary logic systems and wires without latches
- Automated 32 bit, 2 parallel 16 bit, or 4 parallel 8 bit additions, accounting for possible saturation and overflow