Brent Lee

Torrance, CA | (657) 731-5221 | brentlee785@gmail.com | linkedin.com/in/brent-lee-165806247

EDUCATION

BS: Electrical Engineering & Computer Science – 3.68 GPA **May 2028**
University of California, Berkeley
- Relevant Coursework: CS 61A (Python), EECS 16A (Linear Algebra), Math 53 (Multivariate Calculus)
- Spring Coursework: CS 61B (Data Structures), EECS 16B (Circuits), Physics 7A (Mechanics)

International Baccalaureate (IB) & ValTech (technology) Diploma – 4.76 GPA **June 2024**
Valencia High School, Placentia
- Relevant Coursework: Mechatronics (SOLIDWORKS), CS Classes (Java, C++), IB Math: Analysis and Approaches (Calculus 2), IB Physics

EXPERIENCE

Software Development Intern **June 2023 - July 2023**
Parsec Automation Corp. *Yorba Linda, CA*
- Prototyped client and R&D solutions for TrakSYS web app using **C#**, **Javascript**, and **Azure API**
- Integrated **Azure** Optical Character Recognition (OCR) to reduce client data entry errors
- Assessed **Azure AI** (GPT-3.5) use with **SQL** database to improve user database search and access

Electronics Team Member **September 2024 - Present**
Vertical Take-Off and Landing (VTOL) at Berkeley
- Using **Altium Designer** to develop a **power distribution board** for scaled-down prototype tilt-wing VTOL aircraft
- Schematic and layout for motors, servos, step-down buck converters, and current/voltage sensing with 6s battery configuration
- Learning **high-power** considerations for future full-scale tilt wing VTOL project

Avionics Team Member **September 2024 - Present**
Space Technologies and Rockery (STAR) at Berkeley
- Used **OpenRocket Simulator** to design; power tools and epoxy **2100ft** apogee fiberglass rocket alongside intro project teammates
- Used **Altium Designer** to design, fabricate, and **solder** ESP32-S3 avionics board for in-flight data collection
- Programmed **firmware** for flash memory, barometer, and IMU in C using **Arduino IDE**

Programming Lead **August 2023 - June 2024**
Valencia Robotics Team 4470
- Directed and mentored a **10-member** programming team; researched, developed, & troubleshooted **PID** telescopic arm, pneumatic and motorized feeder, and **computer vision** systems for 2023/2024 FIRST Robotics Competition
- Coordinated with mechanical/electrical teams, ensuring **100%** compatibility with hardware, sensors, and systems
- Oversaw project planning/task allocation, delivering competition-ready robot in **one month** & secured SoCal Showdown 2023 regional **2nd place** finish

Vice President **August 2023 - June 2024**
Valencia Cyber Security Club
- Managed weekly meetings for **70+ members**, organized speaker panels, and mentored in **Linux** administration
- Led competition team to platinum tier finish in CyberPatriot competition & **3rd** place finish in annual SoCal Cyber Cup CTF Challenge
- Worked with club president to delegate responsibilities to **8-member** board to organize events and competitions

PROJECTS

Custom 'Arduino Micro' Mechanical Keyboard **January 2022 – April 2022**
- Learned inner workings of mechanical keyboard and keyboard matrix functionality
- Used **KiCAD** to design printed circuit board (PCB) schematic and layout
- Interacted with vendors to laser cut stainless steel plate and used **C** for **Arduino** firmware

OpenCV Aim Automation **April 2022 – September 2022**
- Developed **Python** script to autonomously track and hit targets in non-competitive mode of AimLabs aim trainer
- Attempted **TensorFlow object detection**, creating script to **annotate** additional training data with pre-trained model
- Used **OpenCV** to process image frames and color segmentation to isolate and detect targets

SKILLS

Programming Languages and Frameworks: Python | Java | C++ | C# | C | Javascript | HTML | CSS | Vue.js
Tools: Altium Designer | KiCAD | SOLIDWORKS | Fusion 360 | Linux | Git | Jupyter Notebook | Arduino IDE
Specialized Skills: PCB Design | CAD | Machine Learning | Computer Vision | Cybersecurity
Soft Skills: Assisting/collaborating with peers, adaptability to new environments/problems