Jeffrey Lee

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Education

University of California, San Diego – *La Jolla, California*
Expected Graduation: June 2026 | GPA: 3.842
Major: Computer Engineering

Relevant Coursework:
Advanced Data Structures, Design & Analysis of Algorithms, Computer Organization & Systems Programming, Software Tools & Techniques Lab, Mathematics for Algorithms & Systems, Components & Circuits Lab, Circuits & Systems, Analog Design, Engineering Probability & Statistics, Physics (Electricity, Magnetism, Fluids, Waves, Thermodynamics, & Optics), Calculus, Linear Algebra, Differential Equations, Discrete Mathematics

Skills

Technical

- Languages: **Java**, **Python**, **C, C++**, **Linux Command Line**, **MATLAB**, **HTML.**
- **Object-Oriented** Programming, applications of **Data Structures** and **Algorithms, Systems Programming** in **C** and **Assembly,** with experience programming microcontrollers such as **Arduinos.**
- **Analog Design**, **Circuit Analysis**, applications of **Circuits** and their **Components.**
- Cisco certified in introductory **Cybersecurity** concepts (**threats**, **attacks**, **vulnerabilities**, approaches to **threat detection** & **defense**).

Tools & Libraries

- Programming with **IntelliJ IDEA** and **Eclipse** IDEs, **Vim,** and the **Visual Studio Code** code editor.
- Designing circuit schematics, conducting simulations, and analysis with **LTSpice** and **PSpice.**
- Testing circuits using **Oscilloscopes, Multimeters**, **DC Power Supplies, Function/Waveform Generators,** and **VirtualBench**.
- Application of standard collections and libraries in **Java** and **C++**, and **Python** libraries such as **Numpy** and **Pandas.**
- **CAD/3D Modeling** with **Onshape** (Certified by Onshape in Part Design) with experience working with 3D Printers.
- Oracle certified as an **Oracle Cloud Infrastructure Foundations Associate**, demonstrating proficiency of foundational concepts in OCI.

Projects

File Compressor & Decompressor

- Programmed a compressor and decompressor in **C++**, implementing **Huffman Coding** to achieve lossless file encryption/decryption.

Line Following Robot

- Collaborated in a team to build a robot to follow a black line on a white surface, with a key role in programming and wiring components.
- Worked with **3D modeling** and **printing**, **soldering**, **Arduino programming**, and **control system** testing (to optimize PID).

ASL Interpreter

- Developed a program in **Python** that detected American Sign Language from the video camera in real time utilizing **Computer Vision**, interpreting the hand signs to letters in the English alphabet, which were then outputted as text-to-speech.
- **OpenCV**, **Mediapipe**, **Tensorflow**, and other open-source resources were implemented in the project.

Dungeon Crawler Game

- Spearheaded a team in the organization and creation of a game by directing its structure and components while mapping out the main objectives of each week during the development of the project.
- Implemented **multithreading**, efficient **algorithms**, and diverse **data structures** in **Java** for the game's mechanics and functionalities.

French Phrases Project

- Built a program in **Python** that received individual components of a phrase in the French language to produce a grammatical and structural sentence while explaining the intricate rules in French grammar that were applied.

Speaker (Audio Amplifier)

- Collaborated in a group to build a speaker that amplifies audio input, additionally enabling volume adjustment.
- Led the testing and organization of the **circuits/wiring**, along with **soldering** the components in our prototype design.

Leadership & Activities

Member | Institute for Electrical & Electronics Engineering – Eta Kappa Nu (IEEE-HKN) at UCSD *April 2023 – Present*

- Successfully selected for and inducted into HKN, a national engineering honor society for Electrical Engineering and Computer Science, fulfilling the requirements based on scholastic standing (within the top 20% of my class), character, and leadership.
- Engaged with peers and professionals, developing skills in leadership, computing, and community involvement.

Member | Association for Computing Machinery at UCSD *October 2022 – Present*

- Engaged in a community of students with shared interests in Computer Science and Engineering.
- Explored new topics and developed skills through hands-on workshops and activities pertaining to Software Engineering, Cybersecurity, Machine Learning, Artificial Intelligence, 3-D Printing, and other technical and professional aspects of the field.

Student | ECE Summer Internship Prep Program at UCSD *August 2022 – September 2022*

- Developed professional and technical skills relevant to the industry and my career in Computer Engineering.
- Worked with **CAD**, **Circuit Python**, **PCB Design**, **Machine Learning**, **Computer Vision (OpenCV)**, and other tools.