

Tristan Lee

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SUMMARY

Electrical Engineering student specializing in Signal and Image Processing with a minor in Cognitive Science (Neuroscience). Experienced in neural engineering and human-device interaction, with hands-on research expertise at the Veale Lab (Neurobotics), Kyoto University. Proficient in Python, C++, and Verilog, I am dedicated to integrating advanced hardware and software into embedded, user-centered tools to create intuitive, impact-driven solutions.

EDUCATION

University of California, San Diego

September 2025 - June 2027

B.Sc. in Electrical Engineering

La Jolla, California

- **Relevant Coursework:** OOP in C++, Engineering Computation in C, Analog Design
- **Activities:** UCSD Ice Hockey, UCSD Surf Club, IEEE, Triton Neurotech, Triton Solar Car, Triton Quantitative Trading

Kyoto University

April 2026 - September 2026

International Exchange - Research Student

Kyoto, Japan

- **Relevant Coursework:** Basics of AI and Informatics, Fundamentals of Artificial Intelligence
- **Activities:** Developmental Neurorobotics Lab (Veale Lab), KU Ice Hockey Team

Evergreen Valley College

August 2023 - June 2025

A.Sc. in Mathematics, Computer Science, & Physics

San Jose, California

- **Relevant Coursework:** Foundations of Data Science, Data Structures, Programming & Methodology
- **Activities:** President - EVC Engineering Club, Vice President - EVC Computer Science Club

SKILLS

Programming: Python, C/C++, Java, JavaScript, MATLAB, HTML/CSS, LaTeX, System Verilog

Data & Visualization: Pandas, NumPy, Matplotlib, statistical analysis, data cleaning

Tools & Cloud: Arduino IDE, Google Colab, Microsoft Power Apps, Onshape, KiCad, Excel

EXPERIENCE

NASA - California Space Grant Consortium Microcomputer & Robotics

May 2025 - August 2025

Engineering Intern

San Jose, California

- Engineered embedded C++ firmware for an ESP32-based algae detection robot, integrating turbidity, pH, and temperature sensors to generate over 1,000 reliable data readings for environmental monitoring.
- Designed Python workflows to automate calibration, process sensor data in real time, and generate visualizations that improved testing efficiency and reliability.
- Created technical documentation for sensor calibration and firmware deployment process.

TECHNICAL PROJECTS

ITCH 5.0 Parser & Limit Order Book 🌀

- Designed an FPGA-based NASDAQ market data decoder and Limit Order Book in pure Verilog, achieving sub-840ns end-to-end latency on a Xilinx Alveo U55C as part of a 6-person HFT pipeline.
- Implemented a 512-bit AXI-Stream adapter and byte-serial finite state machine to parse all four ITCH 5.0 message types, validated via Vivado simulation against real NASDAQ market data with 0 errors and synthesized at 100MHz with 8.71ns timing slack.

Southwest U.S. Temperature & Precipitation 🌀

- Analyzed climate data for 13 Southwestern U.S. cities (1960–2021) using Python, creating visualizations to identify precipitation trends and drought patterns.
- Conducted A/B statistical testing to compare precipitation during EPA-defined drought years with other years, evaluating whether observed drought conditions were statistically significant.

CERTIFICATIONS

- NASA Community College Aerospace Scholar 🌀
- Data Visualization in Google Sheets 🌀
- Understanding Data Visualization 🌀