David Le Chan

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Education

M.S. in Electrical and Computer Engineering (ECE) Class of 2027
Carnegie Mellon University (CMU) | Pittsburgh, PA

- **Coursework:** Digital Integrated Circuit Design

B.S. in Electrical and Computer Engineering (ECE) Class of 2026
Carnegie Mellon University (CMU) | Pittsburgh, PA

- GPA: 3.73/4.00; *4x College of Engineering Dean's List Recipient*
- **Coursework:** Computer Architecture, Digital Design Verification, Microelectronic Circuits, Numerical Computation Algorithms, Computer Systems, Signal Analysis, Linear Algebra, Multivariable Calculus

Work Experience

FPGA & Electrical Engineering Intern May 2025 - August 2025
KLA Corporation | Milpitas, CA

- Upgraded FPGA firmware to support high-speed lossless image compression on wafer inspection tools
- Implemented subsystems using Vivado IP Integrator and verified functionality through Questa simulation
- Deployed designs on Alveo accelerator cards, performing place-and-route optimization and hardware-level validation to quantify performance and ensure reliability

Undergraduate Research Assistant May 2024 - Present
IO Harness Project | Pittsburgh, PA

- Designing a standardized chip harness on TSMC's 28nm node with Professors Ken Mai and Jim Bain to reduce infrastructure redevelopment work in CMU's digital tapeout (18-725) class
- Architecting system features and writing SystemVerilog RTL for I2C, UART, and SPI communication blocks

Power Electronics & Programming Intern June 2022 - January 2024
Tau Motors | Redwood City, CA

- Prototyped power circuits for wound-field electric motors, including PCB layout, assembly, and bench testing
- Developed custom inventory management software and systems to accelerate hardware development

Leadership and Projects

Head Teaching Assistant, 18-100 (Introduction to ECE) January 2025 - Present

- Leading a team of 40+ TAs to inspire 180 students to pursue an ECE degree and learn fundamental concepts
- Revamping labs such as machine learning and AM radio to boost student engagement and learning outcomes
- Partnering with university leadership to develop custom course materials and streamline logistics procedures

One-Instruction Flappy Bird January 2025

- Collaborated with a team to design a one-instruction (SUBLEQ) CPU to play the video game Flappy Bird, contributing to a successful project at CMU ECE's Build18 hackathon
- Implemented memory-mapped IO and VGA graphics features to target game code on a Spartan7 FPGA

Carnegie Involvement Association (CIA) Buggy August 2023 - Present

- Managed over $50k in club funds and coordinated with CMU alumni and financial officers

Skills

Hardware: SystemVerilog, VCS/Questa, Quartus/Vivado, TCL scripts, Cadence Virtuoso, KiCAD/Fusion360

Software: Python (NumPy, Pandas, Scikit), Git, Bash scripts, C/C++, MATLAB