# 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, Machine Learning, Numerical Computing, 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 via Verilog and Vivado IP Integrator, verifying functionality through Questa simulation
- Deployed designs on PCIe-based 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, CMU ECE | Pittsburgh, PA

- Designing a standardized chip harness on TSMC's 180nm node with Professors Ken Mai and Jim Bain to reduce infrastructure redevelopment work in CMU's digital IC 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 Python-based inventory management software and systems to accelerate hardware iterations

## Leadership and Projects

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

- Leading a 40 TA team to foster an emotionally-safe environment where 180 students can explore ECE, form lasting friendships, and develop strong engineering habits
- Continuously redesigning lab curriculum, such as the AM Radio lab with PCB and soldering components, to give students hands-on experience with real hardware assembly and industry design workflows
- Establishing automated Python scripts and feedback systems to streamline course operations, reducing administrative overhead and empowering TAs to focus on mentorship and teaching quality

**One-Instruction Flappy Bird** (github.com/jobitaki/JustOneFlappyBird) January 2025

- Collaborated with a team to design a one-instruction (SUBLEQ) CPU to play the video game Flappy Bird
- Implemented memory-mapped IO and VGA graphics features in SystemVerilog to target a Spartan7 FPGA

## Skills

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

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