David Le Chan

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Education

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

- Digital Integrated Circuit Design (SRAMs), Innovation Strategy and Management

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

- GPA: 3.8/4.0; *5x College of Engineering Dean's List Recipient*
- Digital IC Tapeout, Computer Architecture, Digital Design Verification, Microelectronic Circuits, Machine Learning, Computer Systems, Signal Analysis, Linear Algebra, Multivariable Calculus, Statistics

Work Experience

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

- Upgraded FPGA firmware for high-speed lossless image compression on KLA's flagship wafer inspection tool line
- 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 harness to reduce infrastructure redevelopment work for IC tapeouts; first prototype fabricated on TSMC 180 nm under active testing
- 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 (TA), Introduction to ECE (18-100) January 2025 - Present

- Leading a 40 TA team to foster an emotionally-safe environment where 180 first-year 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

- SystemVerilog, VCS/Questa, Quartus/Vivado, TCL, Cadence (Virtuoso/Genus/Innovus), KiCAD/Fusion360
- Python (NumPy, Pandas, Scikit), Git, Bash, C/C++, MATLAB