Landon Hering

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EXPERIENCE

TOMAS PALACIOS GROUP | Undergraduate Researcher
Dec 2024 – May 2025 | Cambridge, MA

- Developed full-stack applications including a QR code generator, QR code reader, and structured database to encode position at microscopic scales on silicon wafers.
- Utilized a dynamic SQL-based database to sort and display sample images based on embedded QR codes.

EVOLVE BGS | Software Engineering Intern
Jun 2025 - Aug 2025 | Cape Town, SA

- Built tools to analyze logger data from a PostgreSQL database for a virtual power plant start-up.
- Implemented noise reduction, fitted optimal solar curves, and organized incoming data on the back end.
- Found and implemented a solar forecasting API into the back-end, with this data giving us expected energy outputs.

PROJECTS

GENERATIVE MUSIC MODEL Aug 2025

- Created a transformer-based generative music model using PyTorch.
- Generates music based on a piano seed input
- Trained on a processed MAESTRO dataset

PERSONAL WEBSITE Jun - Jul 2025

- Created a professional website (https://landododo.github.io) using react back-end

4-STAGE PROCESSOR Independent Class Project
Feb 2025 – May 2025

- Created a 4-stage RISC-V fully pipelined processor described in Minispec (hardware description language).
- Divided into fetch, decode, execute, and writeback stages with full bypassing from fetch and decode to writeback, including branch prediction.
- Integrated instruction and data caches for performance.

FLASK PROJECT Aug 2024

- Developed a website using Flask and a SQL database to store books and book reviews.
- Implemented user logins, timestamped reviews, and functionality to add new books to the system.

MALLOC IMPLEMENTATION Independent Class Project
Apr 2024

- Implemented a memory allocator to correctly allocate and free memory from the heap.
- Used blocks storing size, state, and next/previous block pointers for an arbitrary-sized heap.

EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
Bachelor of Science in Electrical Engineering with Computing
Expected May 2028 | Cambridge, MA
Cross-country and track student athlete
Tech Catholic Community Member
Cum. GPA: 5.0 / 5.0

UNIVERSITY OF MINNESOTA - TWIN CITIES
Aug 2023 - May 2024 | Minneapolis, MN
Dean's List (All Semesters)
Cum. GPA: 4.0 / 4.0

SKILLS

PROGRAMMING
3+ years:
Python • C/C++ • Java • Git • Linux/Unix CLI • HTML/CSS
1–2 years:
React • JavaScript • SQL • Bash

HARDWARE + SYSTEMS
Bluespec • Verilog

TOOLS FRAMEWORKS
Git • VS Code • Docker • Postgres • Pandas • NumPy

COURSEWORK

MIT - PAST
Math for Computer Science
Algorithms
Computation Structures
Fundamentals of Programming

MIT - CURRENT (FALL 2025)
Digital Systems Laboratory
Machine Learning
Electrical Circuits
Probability and Random Variables

UNDERGRADUATE - UMN
Machine Architecture and Organization
Applied Linear Algebra
Linear Algebra and Diff Eqs
Sequences, Series, and Foundations

LINKS

Github:// **Landododo**
LinkedIn:// **Landon Hering**