Max Leblang

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EDUCATION

University of Wisconsin - Madison December 2025
Computer Engineering B.S. GPA: 3.96/4.00
Selected Coursework: Operating Systems, Introduction to Robotics, Digital System Design and Synthesis

EXPERIENCE

Delve Madison, WI
Embedded Systems Engineering Intern May – August 2025

- Led the development and integration of production-grade firmware for an ESP32 wearable leveraging the LVGL graphics library, managing full product lifecycle from conception through building 50 units for client usability testing
- Developed critical bare-metal C drivers for an RFID reader and dual SD card reader system, ensuring seamless hardware-software integration and reliable data storage capabilities for medical-grade application requirements
- Engineered BLDC motor firmware, power architecture, and user interface, collaborating across mechanical and industrial design teams to meet industrial-grade torque requirements

Optimal Ticketing Remote
Backend Software Engineer (part-time) January – May 2025

- Scaled integration app from prior internship to handle high throughput syncing of 10,000+ accounts in less than a minute
- Implemented a multithreaded service to maintain accurate, real-time pricing between production data and external APIs

Backend Software Engineering Intern June – August 2024

- Designed and built a real-time ticket data integration app in Python that reduced transaction reconciliation time by 160 hours per month by syncing purchase and inventory data across multiple API endpoints
- Increased production data sync throughput by 80% by multithreading API calls, requiring extensive system-wide data validation and logging to ensure data reliability

Wisconsin Embedded Systems and Computing Lab Madison, WI
Machine Learning Research Engineer September 2023 – June 2024

- Designed a multi-headed CNN in TensorFlow that classified 4 distinct behaviors across 10 cows with an accuracy of 96%
- Led deep learning development for dairy cow health prediction paper (in collaboration with two grad students), focusing on time-series behavior modeling
- Built a sliding-window data preprocessing pipeline to segment over 61M data points for training

Paperless Parts Boston, MA
Computational Geometry Software Engineering Co-op January - June 2023

- Automated the detection and healing of geometric problems in uploaded customer files that increased customer's ability to finalize cost estimates by 7% through computational geometry APIs in Python and C++
- Assisted in increasing platform-wide file size ingestion capacity by 4x by enabling the transfer of files through API calls

PROJECTS

SmartMigrate March 2025 – Present

- Awarded Best Prototype and Demo at 2025 Transcend UW Competition
- Designing scalable multilingual AI assistant using LangChain/LangGraph in Next.js, helping migrants complete asylum applications in 20+ languages.

MiniSpark April 2025

- Built distributed data processing framework replicating Apache Spark's DAG execution and task scheduling in C
- implemented intelligent thread pool scheduling for parallel execution with deadlock prevention

FPGA Knights Tour September – December 2024

- Programmed and validated FPGA-based autonomous robot to solve Knight's Tour in real time using SystemVerilog
- Fully implemented the digital logic for UART and SPI protocols, PID motor control, and optimal traversal algorithm to the Knights Tour problem on a 5x5 board

TECHNICAL SKILLS

Python, C, C++, SystemVerilog, MATLAB, Linux, Git, FreeRTOS, STM32, I2C, SPI, UART, LVGL, TensorFlow, AI