Max Leblang

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Highly motivated computer engineer with experience building production embedded systems and high-throughput backend infrastructure seeking a software engineering role.

EDUCATION

University of Wisconsin - Madison
Bachelor of Science, Computer Engineering December 2025
GPA: 3.97/4.00

ENGINEERING EXPERIENCE

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

- Developed bare-metal C drivers for UART-based RFID reader and SPI dual SD card system with concurrent read/write management, implementing peripheral power management battery-powered medical-grade application requirements
- 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
- Engineered BLDC motor control firmware with closed-loop torque control and power supply architecture, collaborating across mechanical and industrial design teams to meet industrial-grade torque requirements

Optimal Ticketing Madison, WI
Backend Software Engineer January – May 2025

- Scaled integration app from prior internship to handle high throughput syncing of 10,000+ accounts in less than a minute

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

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

- Automated detection of broken mesh faces in uploaded customer files and implemented geometric surface replacement using HOOPS C++ geometry library, increasing customer's ability to finalize cost estimates by 7%
- Enabled the 4x increase in platform-wide file size ingestion capacity by refactoring C++ file conversion microservice from shared disk architecture to API-based file transfer

SmartMigrate Madison, WI
Co-Founder May 2025 – Present

- Conducting market validation through interviews with immigration attorneys and experts to refine product-market fit
- Building a multilingual agentic backend infrastructure using Python, FastAPI, and LangChain, implementing optimized system role prompts and contextual question frameworks to enhance LLM response accuracy and user experience

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

- Led deep learning development for dairy cow health prediction research focusing on time-series behavior modeling and built scalable data preprocessing pipeline processing 61M data points with sliding-window segmentation

PROJECTS

MiniSpark, *Operating Systems*

- 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

Runaway Alarm, *Embedded Microprocessor System Design*

- Building self-balancing robotic alarm clock with custom 2-layer PCB in Altium, integrating IMU sensor fusion, dual DC motors with H-bridge drivers, and RTC module with 7-segment display

LEADERSHIP ROLES

Teen Leadership Program Coordinator, *Camp Kesem at UW-Madison*
VP of Recruitment/ VP of Social Events, *Delta Kappa Epsilon Fraternity*

TECHNICAL SKILLS

Python, C/C++, Git, Linux, FreeRTOS, ROS2, PostgreSQL, Datadog, STM32, Altium, Solidworks, LVGL, TensorFlow