MINGJIN LU

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EDUCATION

Boston University — Boston, MA
M.S., Electrical and Computer Engineering — Expected May 2028

The Pennsylvania State University — University Park, PA
B.S., Computer Engineering — May 2026

- GPA: 3.85 / 4.00 Dean's List

EXPERIENCE

BU IT Help Center, Boston University — Boston, MA
IT Support Specialist — Aug 2026 - Present

- Triaged around 50 student and faculty support requests per week in ServiceNow and speed up resolution times with in 30 min per ticket.
- Diagnosed hardware and software issues via hotline calls and walk-in consultations, restoring client productivity on first contact.
- Managed loaner and repair inventory using strict check-in/check-out procedures to maintain full asset tracking and quick equipment turnarounds.

MATH & CSE Departments, The Pennsylvania State University — University Park, PA
Grader — Jan 2023 - Dec 2026

- Evaluated 100+ weekly assignments for course Calculus, Linear Algebra, and Communication Networks.
- Provided constructive feedback to students adhering to strict academic rubrics, supporting academic success.
- Organized strict grading deadlines, ensuring high accuracy and attention to detail.

PROJECTS

FPGA Signal Processing Pipeline — May 2026

- Designed a 25-tap complex FIR and CORDIC signal-processing accelerator on a Zynq FPGA to compute magnitude and phase from complex-valued input signals.
- Applied loop unrolling, array partitioning, and HLS pipelining to reduce FIR latency from 57 to 5 cycles, a 91% reduction, while increasing estimated Fmax from 141.7 to 165.6 MHz.
- Optimized hardware with ap_int/ap_fixed arithmetic, reducing FPGA utilization by 93% in DSPs, 86% in FFs, and 83% in LUTs versus standard integer/double-precision implementation.

8-Bit Carry Skip Adder Design — May 2026

- Architected a 2-stage pipelined 8-bit adder using CMOS technology in Cadence Virtuoso.
- Verified functionality through transient simulation and worst-case timing analysis, measuring a 504.7 ps critical-stage delay.
- Debugged 8-bit bus timing glitches and optimized pipeline register behavior to improve signal integrity and timing consistency.

Permafrost Freeze and Thaw Simulation Module — December 2025

- Led a 5-person capstone team to design a system freezes/thaws soil using Peltier modules.
- Integrated Keysight VNA measurements to analyze S11 frequency response during thermal cycling.
- Developed the experimental platform to support AFOSR-funded permafrost research in Alaska, enabling repeatable laboratory freeze-thaw and RF characterization experiments.

Smart Auto Camera — December 2025

- Built an object-tracking camera using RPi 5 and ESP32 controlling servos for autonomous movement.
- Engineered a real-time object tracking system in Python, implementing OpenCV for motion detection and YOLO for object recognition.
- Designed and soldered a custom control circuit and 3D-printed mounts for camera and servos.

SKILLS

Technical: Python, C, Linux, Git, Arduino, ESP32, Raspberry Pi, KiCad (PCB Design), Cadence Virtuoso, Vivado, Vitis, Soldering, Oscilloscopes.
Language: English (Professional), Chinese (Native), Japanese (Beginner).