Jihong “Eric” Min

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EDUCATION

Purdue University (expected May 2026)
- Bachelor of Science in Computer Engineering

SKILLS

Hardware: PCB design/assembly/testing, JTAG/SWD debugging, bench testing, delicate solder rework
Software: STM32CubeMX, ARM-CMSIS, Altium, SIMPLIS, Questasim, RTL design
Languages: Assembly, RISC-V ISA, SystemVerilog, C, Python, MATLAB, English, Korean

WORK EXPERIENCE

BorgWarner | Power Electronics Engineer – Intern | Kokomo, IN (2025)
- **Significantly automated DPT data analysis and evaluation by developing MATLAB tool**
  - Developed both GUI front-end and numerical analysis back-end for data automation tool
  - Rewrote legacy code to user-friendly GUI with emphasis on modularity, scalability, and useability
  - Significantly streamlined analysis process and cut time from 2 hours to 5 minutes
  - Planned for global deployment as standard internal tool for DPT analysis
- **Conducted testing and evaluation of production and development units**
  - Conducted DPTs of 800V SiC traction inverters to observe switching characteristics
  - Ran data collection and analysis of inverter DPTs, reworked gate resistors for optimized values
  - Consulted datasheets and FAEs to evaluate flyback controller prototype for GDIC power supply

PROJECTS

ECE437 (CPU Design Lab): Dual core RISC-V CPU written in SystemVerilog (2025)
- Designed a dual core 32-bit RISC-V CPU with 5-stage pipeline in SystemVerilog
- Shared memory architecture with I and D caches and MSI bus protocol
- Unit tests written in RISC-V assembly, debugged with Questasim, synthesized with Vivado
- Implemented parallel algorithm in RISC-V assembly to utilize both cores
- Synthesized & evaluated on AMD Spartan-7 FPGA

BOSS: STM32H7 data acquisition system with ISO-16750 compliant PSU and CAN comms (2024)
- Four 16-bit differential ADCs achieve 600Ksps+ and 12+ ENOB with custom SPI drivers written in C
- Integrated SMPS with ISO-16750 compliant short, reverse polarity, and load dump protection
- Integrated SMPS has 4.1mV AC RMS and 12.5mV Pk-Pk at 460KHz with 14.4V DC input
- 4-layer mixed-signal PCB with ground stitching and layer stackup for best EMI performance
- Hardware designed with Altium, Firmware written in C using STM32 HAL

Time Machine Mk. 8: Digital watch with USB rechargeable battery and I2C sensor suite (2023)
- Digital watch with over 5 days of always-on battery life from 40mAh rechargeable coin cell
- Temperature/Humidity/Barometric pressure sensor, 3-axis accelerometer, battery fuel gauge, and two LCDs connected via two I2C buses to ARM Cortex M0+ uC. USB charging and communication.
- Featured online: (Hackaday.com (2019), Hackaday.com (2023), Hackster.io (2023)) (Project website)

EXTRACURRICULARS

- **Formula SAE:** Designed and manufactured custom electronics to measure strain gauges for vehicle dynamics analysis, assisted with manufacturing/testing of vehicle.
- **Purdue SoCET:** PCB subteam – developed analog baseband board for SDR project

IT CAN BE DONE.