# Daniel Liu

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## education

**University of Waterloo**                                          **2020–2025**

Bachelor's of Computer Science with Digital Hardware Specialization

## skills

**programming languages** Bash, C, C++, C#, Go, Haskell, Java, Javascript/Typescript, Python, Rust, Verilog, VHDL

**tools** Altium Designer, KiCad, EagleCAD, Fusion 360, Onshape

**skillsets** High Frequency Design (Ethernet, DDR), Power Electronics, Embedded Systems

## experience

**Solderable, Inc.: Founder and CEO**                              **2025**
- Leading a venture-backed pre-seed startup to build the world's first **fully autonomous** electrical engineering firm
- Designed and manufactured over **2000 PCBs** for clients, including AI wearables, IoT devices, and high voltage power distribution boards

**Pex Labs: Cofounder**                                           **2024**
- Formed company building a retro handheld game console for the PICO-8 game platform
- Built **10+** 3D printed prototypes, **5** custom PCB revisions and engineered game emulator
- Spoke with **100+** customers, gained **1000+** waitlists, and raised $**12,000** in grants

**Tesla: Vehicle Update System**                                  **2024**
- Introduced **over-the-air (OTA)** modem updates to the **Golang** based Tesla updater for the Optimus robot, eliminating time-consuming manual code uploads for robot developers
- Productionized robot software by implementing **encrypted updates** for autopilot computer

**Wind River Software: Open Source Embedded Developer**           **2023**
- Responding to customer request, ported **Golang** to **VxWorks** – the industry leading RTOS
- Involves porting system calls and writing runtime bootstrapping code in assembly
- Enabled **VxWorks** kernel and **Golang** process remote debugging using **gdbserver**

## projects

**Datacenter Power Distribution Board** :                         **Nov 2025**
- Designed 4-layer PCB with **STM32N657** (178 pin BGA), 10/100Mbps **Ethernet**, USB-C, 48V high side load switches, and hall effect sensor array
- Provided galvanic isolation between high voltage and low voltage control sections of the board

**AI Smart Ring** :                                               **July 2025**
- Developed a NRF54L **flex PCB** with chip antenna and li-po battery charger for an AI wearable startup
- Project had tight size constraints requiring sourcing small form factor components and efficient layout/routing

**Game Console Mainboard** :                                      **June 2025**
- Created 6-layer PCB with **Allwinner A33 SoC** (300+ pin BGA), PMIC, **DDR3 memory**, SDIO wifi/bluetooth module, RGB666 display driver and Li-po battery charger
- Full board bring-up with custom **buildroot kernel** and comprehensive device tree configuration
- Designed mechanical enclosure and produced with SLA 3D printing

## interests

**hackathons** Participated and submitted to 30+ hackathons winning 10+ times

**game jams** Submitted to 7+ game jams

**open source** 9000+ total contributions, 1000+ pull requests created and 400+ stars

**language acquisition** fluent English, Mandarin, and Japanese; studying Korean and German