

TROY DENTON, M.ENG., P.ENG.

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SKILLS

- VLSI design & verification – Verilog, SystemVerilog, Cadence Virtuoso, spectre, icarus, cocotb.
- Chip bringup experience on 2 devices (10nm, 3nm)
- PCB design – KiCAD, Altium, ngspice. Experienced with ISO13485, FCC compliance.
- Open-source contributor to KiCAD, FreeSWITCH, other projects.
- C, C++, python, bash, etc. Experienced in RISC-V, ARM, NIOSII, AVR, x86, amd64, and more.
- Strong git, svn, CI/CD skills. Experienced admin with GitHub, GitLab, Jenkins. Linux/BSD expert.
- DDR, Ethernet, misc. protocol firmware for ASICs, and general MCUs: STM, Microchip, AVR.
- SMT soldering, electronic troubleshooting & repair. Occasional self-employed consulting engineer.
- Refined presentation & documentation skills. Excellent public speaker. Experienced event planner.

RECENT EXPERIENCE

Senior Staff Firmware Engineer, Alphawave Semi – Toronto 2024-Present

- Design and verification of Ethernet, PCIe, PLL control firmware. Designed & implemented “documentation as design” initiative within team, setting a new standard for internal docs.
- Introduced FW team to unit testing, code coverage metrics with cmake, GoogleTest.
- Performed mixed-signal simulation debug for new feature bringup & customer issue resolution.
- Provided bugfixes and features for internal tools. Regularly QA, triage, release customer collateral.
- Implemented new features in SystemVerilog, UVM pre-si testbenches.
- Organized a weekly cross-team social event and several team outings.

FPGA IP Software Development Engineer / Manager, Intel – Toronto 2021-2024

- IP design & development for FPGA memory controllers: DDR4, DDR5 calibration firmware
- Managed high performing 7-person team alongside development work.
- Social committee leader: planned & hosted dozens of events for employees and executives.
- Improved IP release processes with automated testing (Jenkins), reporting, and documentation.

Senior Telecom Engineer, 24-7 Intouch – Winnipeg 2018-2021

- Full-stack design of browser-based call centre: NodeJS, PostgreSQL, Kafka, Go, FreeSWITCH.

Embedded Software Engineer, JCA Electronics – Winnipeg 2016-2018

- Technical lead, developer for Embedded Linux & FreeRTOS systems. Wrote ISO11783 stack.

Embedded Software Engineer, Younes Medical Technologies – Winnipeg 2013-2016

- Firmware developer for ISO13485 medical devices. EM troubleshooting & circuit design.

RECENT VOLUNTEER EXPERIENCE

Director, Manitoba UNIX Users Group – Winnipeg 2019-2022

- Planned events, wrote newsletters, presented on assorted technologies.

Program Facilitator, Millennium Library Electronics Club – Winnipeg 2019-2021

- Taught a bi-weekly electronics class, helped students fix their devices.

Director, SkullSpace – Winnipeg 2016-2018

- Led a website refresh project, planned many social events, taught dozens of workshops.

EDUCATION

University of Toronto 2022-2025

- M.Eng., Electronics Eng. VLSI design, FPGA architecture, Analog Circuit Design. CGPA 3.93.

University of Manitoba 2007-2012

- B.Sc., ECE. Minor in Computer Science. Awarded “Best Capstone Thesis”. CGPA 3.61.