Danilo Pešević

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Technical Skills

Hardware: circuit design, PCB layout, soldering (THT and SMD), microcontroller programming, hardware troubleshooting, test equipment (oscilloscope, multimeter)
Languages: MATLAB, Python, C/C++, Max/MSP
Tools: Altium, KiCad, SPICE, Fusion 360, Git, Ableton Live

Education

McGill University — Montréal, QC
Master of Arts in Music Technology — GPA: 4.0/4.0 — *Aug. 2024 – Sep. 2026*

- **Thesis**: "A Mixed-Methods Study of Haptic Interaction in Digital Musical Instruments"
- **Relevant Coursework**: Gestural control and interface design, digital sound synthesis and signal processing, computational acoustic modeling

University of Alberta — Edmonton, AB
Bachelor of Science in Electrical Engineering Co-op, Minor in Philosophy — GPA: 4.0/4.0 — *Sep. 2019 – May 2024*

Professional Experience

Engineering Intern — Montréal, QC
TandemLaunch — *Sep. 2024 – Apr. 2025, Jan. – Aug. 2023, May – Aug. 2022*

- Led end-to-end development of 5+ multi-layer PCBs in Altium and optimized 3 analog audio circuits using LTSpice and breadboarding
- Developed Python and MATLAB scripts to automate lab equipment interfacing and characterize acoustic metrics (SNR, THD) for reservoir computing kits
- Designed and deployed IoT test equipment to support 3 startups, building 10 hardware enclosures with temperature sensors and Arduino embedded software
- Trained team members in circuit design and manufacturing workflows, handled component procurement, and authored technical hardware documentation

Spectrum and Telecom Student | *Clearance: Active Reliability Status* — Ottawa, ON (remote)
Innovation, Science and Economic Development Canada — *Jan. – Apr. 2022*

- Revised federal radio spectrum regulatory standards (e.g., RSS-248 Issue 2) by analyzing internal technical data and external telecom policies
- Facilitated review sessions to resolve technical discrepancies and finalize compliance documentation

Hardware Development Intern — Calgary, AB
Unico Power — *May – Aug. 2021*

- Co-developed a residential energy management hardware solution, leading mechanical enclosure design, component procurement, and technical documentation
- Built, configured, and tested hardware systems (including EVSEs and communication cabinets) to validate system performance and reliability

Selected Projects

Master's Thesis Research | *Custom Haptic Force-Feedback Interface* — Nov. 2025 – Apr. 2026

- Engineered a custom PCB in KiCad by porting and upgrading obsolete EAGLE schematics, integrating an STM32 MCU, magnetic encoder, and motor driver fitting to a NEMA 17 motor
- Developed a rotary force-feedback controller, generating programmable haptic effects for user interface research

Undergraduate Capstone Project | *8-Channel Audio Patch Bay for Flock Audio* — Sep. 2023 – Apr. 2024

- Designed a 4-layer PCB in KiCad, integrating the power supply, MCU circuitry, and the analog audio path for a digitally-controlled analog audio multiplexer with TRS and XLR inputs
- Collaborated with the firmware team to deliver a fully functional prototype (later adapted into Flock Audio's commercial SWITCH product), winning the Jack Neal Prize in Technical Communication

Leadership and Community Involvement

Technical Volunteering and Workshop Lead | CKUT 90.3 FM — Mar. 2025 – Present

- Develop and lead electronics workshops, teaching soldering and basic circuit theory to fellow volunteers
- Perform routine hardware troubleshooting, maintenance, and repair on broadcast and studio audio equipment