Jeffery Lucchetta

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Education

York University   *2017 – 2020*
Bachelor of Science, Astrophysics

York University   *2021 – 2027*
Honours Bachelor of Engineering, Electrical Engineering

Technical Skills

Languages: C++, C, Java, JavaScript, Python, MATLAB, Bash, HTML
Engineering Tools: RISC-V, Simulink, LTspice/PSPICE, ETAP, AutoCAD, Git/GitHub
Productivity: Microsoft Excel, Word, PowerPoint, LaTeX, Adobe Acrobat
Hardware & Lab: Arduino, oscilloscopes, spectrum analyzers, dynamometer, DACI, 3D printing

Projects

RISC-V Single-Cycle CPU Design and Verification
- Designed and implemented a single-cycle RISC-V CPU in Verilog, including datapath components, control logic, and memory interfaces.
- Verified arithmetic, load/store, and branch instructions through simulation and register/memory state analysis.

Digital Audio Filtering and Noise Removal
- Designed FIR filters in MATLAB using the Parks–McClellan algorithm to suppress noise identified through FFT analysis.
- Evaluated filter performance using time-domain and frequency-domain plots, producing a cleaned audio output with improved clarity.

Infrared and Phototransistor Heart Rate Monitor
- Developed a heartbeat monitoring circuit using an infrared LED and phototransistor to detect blood flow variations.
- Implemented a preamplifier and active low-pass filtering stages to condition and amplify the heartbeat signal for measurement.

Experience

Scotiabank — Global Wealth Operations Analyst Intern   *Sept 2025 – Aug 2026*
- Built an automated workflow using Python to extract, transform, and archive historical records from enterprise databases into Google Cloud Storage for long-term reporting use.
- Designed repeatable reporting pipelines driven by SQL to replace manual processes, improving reliability and consistency of daily and weekly deliverables.
- Performed data validation, reconciliation, and anomaly investigation across multiple source systems to improve accuracy of reported metrics.
- Developed a Power BI dashboard backed by curated datasets to visualize operational trends and exceptions for executive reporting.
- Assumed ownership of critical reporting processes during manager absence, supporting time-sensitive executive summaries with accurate outputs.

York University Orientation Leader   *2018, 2019, 2023*
- Led and mentored incoming engineering students through orientation programming, workshops, and team-based activities.

Custom Computer Assembly
- Built 14 custom desktop computers, selecting components, validating compatibility, optimizing thermals, and performing benchmarking and stability testing.