Jeffery Lucchetta

Last updated in March 2025

Toronto, ON - Canada

jefferylucchetta@gmail.com 416-671-5378 jefferylucchetta

Education

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

York University *2021 - 2026*
Honours Bachelor of Engineering, Electrical

Technical Skills

Languages: C++, C, Java, JavaScript, Python, Matlab, HTML, Bash
Technologies: AutoCAD, Simulink, LTSPICE/PSPICE, MATLAB, Eclipse, GitHub, SCADA, ETAP, LVDAC
Office/Data Entry: Microsoft Excel, Word, PowerPoint, LaTeX, Adobe Acrobat
Hardware: Arduino, Microelectronics, Servo-Machine, DFIG, Photovoltaic Cells, Oscilloscopes, Spectrum Analyzers, Dynamometer, DACI, 3D Printing

Coursework

- Electronic Circuits and Devices
- Communication Networks
- Analog Electronics
- Renewable Energy Systems
- Signals and Systems
- Digital Logic Design
- Introduction to Power Systems
- Business Essentials for Technology Entrepreneurs I & II
- Engineering Probability and Statistics

Projects

Digital Audio Filtering and Noise Removal

- Designed and implemented two FIR filters in MATLAB using the Parks-McClellan algorithm to remove noise from an audio file, using FFT analysis to identify and suppress unwanted frequencies.
- Applied both frequency-domain and time-domain filtering techniques to optimize sound clarity, validated results through waveform analysis, and successfully produced a cleaned audio output.
- Tools Used: MATLAB

Infrared and Phototransistor Heart Rate Monitor

- Developed a heartbeat monitoring circuit using an infrared LED and a phototransistor to detect blood flow variations through light absorption changes.
- Constructed on a solderless breadboard, using a preamplifier, an active low-pass filter, and a final amplifier with low-pass filtering to enhance and process the heartbeat signal effectively.
- Tools Used: Oscilloscope, OP484, Transistors, Resistors, LEDs

Power System Load Flow and Contingency Analysis

- Conducted power flow analysis using ETAP to evaluate voltage stability, transformer loading, and transmission line capacity under various operating conditions.
- Performed single contingency analysis, simulating transmission line failures to assess system resilience, identifying voltage violations, and implementing solutions such as adding parallel transmission lines to maintain voltage stability within acceptable limits.
- Tools Used: ETAP

Experience

York University Orientation Leader *2018, 2019, 2023*

- Led and mentored incoming engineering students for three years, organizing team-building activities and workshops to enhance engagement and retention, fostering a supportive and inclusive environment.

Custom Computer Assembly

- Built 14 custom desktop computers from age 15, designing systems tailored to user needs while optimizing hardware compatibility, performance, and thermal efficiency; provided guidance on benchmarking, reliability testing, and long-term system sustainability.