

Elie Lithwick

☎ +1 416-877-5748 | ✉ Elie0174@gmail.com | [in linkedin.com/in/ElieLithwick](https://www.linkedin.com/in/ElieLithwick) | github.com/elie0174

TECHNICAL SKILLS

Languages: Java, Python, C/C++, C#, JavaScript, MATLAB, SQL, Bash/shell

Frameworks: Node.js, React, Angular, Django, AWS, Azure, Tensorflow, Scikit-learn

Tools: GIT, Ki-cad, AutoCAD, STM32, Tableau, Docker, VS Code, Scrum Agile Methodology

EXPERIENCE

Computer Programming Instructor

Sept 2021 – May 2022

Goldenlink Academy

Toronto, ON

- Taught different levels of kids from grade 6 and up the fundamentals of programming in Python.
- Created Python APIs to allow the kids to create games in a simpler manner.

Embedded Software Engineer

April 2021 – Aug 2021

KPM Power

Toronto, ON

- Developed an embedded hardware device in C to log temperature every hour for Lithium-ion battery rack shipments. Once the battery rack was powered-on the device would automatically send temperature readings over serial communication to a Raspberry Pi and cloud interface.
- Assisted with mass production of temperature logger
- Developed python script for serial communication and data collection from BMS system.
- Created a C# GUI interface for users to decode battery management software data for offline systems that were unable to use the cloud software.

Senior Technical Engineer

April 2019 – Sept 2020

Toronto Hydro

Toronto, ON

- Worked with a team of Engineers to design power distribution plans.
- Created a Python application to plot and visualize the health status of assets on a map of to aid with distribution rebuilds.
- Designed a full voltage distribution Conversion from 4kV to 24kV.

Software Engineer

May 2019 – July 2019

KPM Power

Toronto, ON

- Worked as a contractor to create an application for the company's Li-Ion battery management system.
- Created a C# application both front end and back end that is used to decode and analyze the CAN Communications from the battery management system.
- The application created an excel report of the decoded CAN communications, allowing their customers to easily track and understand the data delivered from the battery management system.

Robotics Engineer

Jan 2019 – April 2019

Cheelcare

Richmond Hill, ON

- Programmed STM32 micro controllers in C
- Designed and coded an obstacle avoidance system for a robotic wheelchair.
- Designed, analyzed, assembled, and troubleshoot circuits in robotic wheelchairs.
- Assisted with testing and debugging of software and sensors.
- Used CAN/CANopen for device communication.

Software Engineer

July 2017 – January 2018

York University Neuropsychology Department

Toronto, ON

- Took legacy test data that was preformed for the last 13 years in MATLAB and created a graphical importing tool in C# to re-analyze the data to test for dementia and concussion.
- Refactored MATLAB software to C# to correct errors, adapt to new hardware and improve performance.

Software Engineer

May 2017 – Aug 2017

MyAbilities Technology Incorporated

Toronto, ON

- Developed an application to analyze data from a medical concussion app in C# .
- Created and programmed the mathematical analysis of the data to test for possible concussion storing results on an SQL database.
- Created a graphical interface to chart the real-time data and display the analysis.

PROJECTS

E-commerce Website | *Node.js, Angular, JavaScript*

- Created an E-commerce website where users could browse through a variety of different categories.
- All the Item data of the website was stored on an SQL database.
- Users have the ability to add items to their cart and add their information to a form for checkout.

Mask detection AI | *Python, TensorFlow, Keras*

- Created a Convolutional Neural Network (CNN) that detect people wearing masks in photos.
- Using OpenCV the CNN would then determine if the user in the video had a mask on or not in real time.
- Created an artificial data set with OpenCV in order to improve accuracy.

Autonomous Mapping Robot | *Python, ROS, C*

- Designed and simulated a robot that could navigate on its own while mapping out the surrounding environment in Gazebo and ROS.
- Created test environments and optimized parameters for maximum accuracy.

Robotic Arm | *Python, ROS, C*

- Solved the inverse kinematics equations for a Kinova 6 axis robotic arm.
- Simulated the workspace environment of the arm in MATLAB.
- Using ROS controlled the arm to pick up cubes on a grid given their position.

EDUCATION

York University

Honors Bachelor of Electrical Engineering (Co-op)

Toronto, ON

Sept 2016 – June 2022

York University

Certificate of Business Entrepreneurship

Toronto, ON

Sept 2016 – June 2022

CERTIFICATIONS

AZ-900

Microsoft Azure Fundamentals

Feb 2023

AZ-204

Azure Developer Associate

March 2023