Eidan Erlich

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Candidate for BASc in Mechatronics Engineering | University of Waterloo

SUMMARY OF QUALIFICATIONS

Languages: C++, Python, Java, Git

Frameworks: OpenCV, Scikit-learn, TensorFlow

Tools: SolidWorks, AutoCAD, GitHub, MS Suite, MS Azure

Skills: R&D, Project Management, Manufacturing Components, Machine Shop Tools

PROFESSIONAL EXPERIENCE

Biomedical R&D Project Manager, *Vitreous Retina Macula Specialists of Toronto* Feb 2022 – Oct 2022

- Independently researched and fully designed ophthalmological surgical instruments using 3D printing technology
- Pioneered proof of concept for using 3D printing in a clinical setting, using DFMA to **reduce manufacturing costs by over 90%**
- Conducted root cause analysis and DOE on feedback from MD residents to revise prototypes, using KPIs to measure success
- Authored technical reports with statistical analysis and visualization for an upcoming scientific paper and journal publication
- Ongoing project consultant, instructing and guiding a multidisciplinary team composed of MD residents and masters' students

IT Operations and Optimization Analyst, *Illumiti* Jul 2022 – Aug 2022

- Automated data analytics using Excel and VBA from Microsoft Azure database, **reducing processing time by 50%**
- Integrated over 1000 user licenses and updated Microsoft Intune policies, **increasing efficiency by 20% for over 5000 clients**
- Led a research team and collaborated with a senior software solutions architect to successfully roll out and integrate 2 network performance monitoring solutions, deployed to more than 20 AWS, GCP, physical, and virtual servers
- Drafted over 30 legal documents, utilizing expertise in legal writing, covering areas such as cybersecurity and company property, resulting in the protection of the company's assets and minimizing legal risks and liabilities

ADDITIONAL EXPERIENCE

Machine Learning Home Price Prediction in Python, *University of Waterloo* Dec 2022

- Trained 2 supervised machine learning models to precisely predict house prices by analyzing metrics from public datasets
- Utilized mean absolute error and cross-validation trade-off to optimize decision tree depth, **maximizing model accuracy to 75%**
- Improved prediction algorithm by using a random forest model, **increasing accuracy to 85%**

Toyota Innovation Challenge, *University of Waterloo* Oct 2022

- Developed an autonomous machine vision algorithm to track 1:24 scale model car within a simulated manufacturing environment
- Utilized **OOP** in **C++** and tracked the real-time position of the car, with **100% successful object recognition and classification**
- Collaborated with a multi-faceted team, successfully ensuring all project constraints were successfully met within the time limit

Chess Robot, *University of Waterloo* Oct 2022 – Dec 2022

- Designed and integrated a 3-axis claw system for the robot to precisely move the claw and pieces with a **+/- 1 cm precision**
- Developed and assembled the drive mechanism using motors, sensors, and actuators to ensure accurate movement
- Implemented agile development techniques in **C++** and **RobotC** to program the robot and integrate it with the mechanical assembly

Electric Go-Kart Design Lead, *Tannenbaum CHAT* Sep 2021 – Jun 2022

- Fully designed and fabricated an electric Go Kart using machine shop and power tools while meeting deadline constraints
- Selected and sourced key components such as motor controllers, batteries, and mechanical modules, **staying 20% under budget**
- Integrated electronic controls with the custom powertrain to optimize the power to weight ratio, **increasing power by 150%**

Student IT Support, *Chartwell Retirement Residence* Jul 2021 – Aug 2021

- Successfully resolved over 500 OT tickets through effective support, resulting in an **acceleration of 30% in processing time**
- Provided technical support, including ticket queue management, PC configuration, and headed hardware repairs

Logistics Manager, *Victory Fireworks* May 2021 – May 2022

- Managed hardware operations and IT team, ensuring smooth online queue operation, and resolved disruptions
- Awarded "Employee of the Month" for dedication, hard work, and exceeding performance expectations

Volunteer Leadership & Tutor - *Immigration Aid Services + Family & Child Services* Aug 2020 – Jul 2022

- Successfully secured an international grant worth $3000 and served as event supervisor for a city-wide youth function
- Taught weekly one-on-one tutoring sessions with a Grade 12 student with learning and developmental disabilities
- Instructed 2 weekly one-on-one chemistry tutoring sessions to a student facing language barriers, increasing marks by over 30%