Hematullah Karimzada

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EDUCATION

Ryerson University September 2018 - April 2023

Bachelor of Engineering (BEng): Mechanical Engineering Mechatronics Stream

Relevant Course Work: Real-Time Computer Control System, Mechatronics Systems Design, Digital Computation and Programming.

WORK EXPERIENCE

360 Engineering & Environmental Consulting Ltd. November 2023 - Current

Software Engineer

- Utilized **React** to design and implement a user-friendly interface within Microsoft Teams for the company, streamlining the collection of well-site location data and licenses, and improving productivity by **20%**.
- Integrated with public databases using **PostgreSQL** to automate data retrieval and storage, ensuring secure handling of sensitive information and compliance with data protection regulations.
- Leveraged **R** programming language for predictive analytics, implementing **Machine Learning** models to generate accurate predictions exported to **Excel** or CSV files, and improving efficiency by **100%**.

Bombardier Inc. August 2021 - August 2022

Reliability, Maintainability and Safety Engineering Intern

- Collaborated with diverse cross-functional teams to successfully execute numerous projects, including **Safety Assessments**, Optimization initiatives, and Failure Mode and Effects Analyses (**FMEAs**).
- Delivered informative presentations and conducted training sessions for colleagues and superiors, equipping them with foundational knowledge in tech domains such as Artificial Intelligence (**AI**), **Machine Learning**, and **Deep Learning**.).
- Developed an **Excel** script that optimized calculations for **Safety Requirements** and **Airworthiness failure conditions** on aircraft, reducing data entry and calculation time by an impressive **300%**.

TechZenik January 2021 - August 2021

Web Developer/Unity Developer

- Developed a **Unity** web game using **C#** scripts and seamlessly integrated it into an **Angular** website.
- Collaborated with back-end developers to integrate **RESTful APIs** and optimize application performance.
- Expertly designed and constructed a user interface using **JavaScript** and **React** to optimize user flow and experience.

SKILLS

Languages	**Python, C, C#, C++, HTML5/CSS3, JavaScript, Assembly, VHDL, R, SQL, NoSQL**.
Frameworks	**Angular, React, Express, Flask, Django**
Tools	**MYSQL, MongoDB, PostgreSQL, Linux, Git, GitHub**.
CAD/Software	**AutoCAD, SolidWorks, MATLAB, Simulink, NI LabVIEW**, and **MS Office**.
Mechanical	**DFA/DFM, GD&T, Safety Assessments, FMEAs, Root Cause Analysis**.

PROJECTS

Self Cleaning Eye Glasses Case January 2023 - April 2023

- Designed a 3D printed glasses case featuring **piezoelectric transducers** that generate **40kHz** vibrations for efficient cavitation-based cleaning. Programmed an energy-efficient Arduino **microcontroller** in **Assembly** language with a 50 percent duty cycle. Incorporated a 5-minute cleaning/drying stage with internal fans for optimal glasses maintenance.

Analog Ohmmeter November 2022 - December 2022

- Developed and implemented a **PID**-controlled ohmmeter with multiple range options, using a rack and pinion mechanism driven by a stepper motor. Integrated a Sharp **IR sensor** and programmed the measurement using **NI LabVIEW**.

Self Balancing Pendulum September 2022 - October 2022

- Developed and implemented a dynamic system using an **Arduino UNO** board, featuring a pendulum connected to a rotating potentiometer. Employed **PID** controls in Assembly code to synchronize the movement of an **AWD** moving cart with the pendulum's resistance, ensuring precise coordination.