Kareem Awad

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SUMMARY OF QUALIFICATIONS

- 8 months as a Defence Scientist Student developing an application using Python at Defence Research and Development Canada
- 8 months as an Associate Business Analyst establishing a platform for student workplace opportunities.
- Designed a 6-axis articulated robot as part of a waterfront waste removal Capstone project
- BASc in Mechanical Engineering & BSc in Computing Technology, University of Ottawa
- Proficient in software such as Python, SolidWorks, MATLAB, and Microsoft Office
- Excellent communication, teamwork, and problem solving skills crafted through years of experience

RELEVANT SKILLS

Engineering Skills

- Highly experienced with MS Office (Word, Excel, etc.), Jira, Confluence, and Agile methodologies
- Programming Languages and software: Python, Golang, SolidWorks, MATLAB, Java, C++
- Proficient research and analytical skills honed through several extra-curricular STEM projects
- Extensive knowledge of concepts pertaining to space from courses and extra-curricular reading

Personal Skills

- Creative, adaptable, detail oriented, and driven
- Attentive listener, quick learner and hands on individual
- Team player, able to display strong leadership and teamwork skills within a group
- Clear and concise communication skills as a result of team projects and previous work experience

WORK EXPERIENCE

Defence Scientist Student

Centre for Operational Research and Analysis, Defence Research and Development Canada, Department of National Defence (DND)

May 30th 2019 – December 11th 2019

Developed a web application that visualized data from the DND infrastructure portfolio to help stakeholders make data-driven decisions related to the retention, transfer, or sale of over 200 properties.

- Met with stakeholders to capture technical and user requirements for the application
- Designed an interactive, user friendly dashboard using Python and Dash – a framework built on React, Plotly.js, and Flask.
- Developed proficient skills in software design, data analysis, problem solving, unit testing, Python, front and back-end development, and debugging

Associate Business Analyst

IT Solutions Team, uOttawa IT Services

September 10th 2018 – May 1st 2019

Championed a project to develop a platform for students at uOttawa to explore, track, and apply to Experiential learning opportunities related to their degree while allowing administrators to manage and

evaluate their progress through the portal. Experiential Learning allows students to apply academic knowledge to real-world experiences, either within the classroom or workplace, to further develop their employability skills.

- Co-authored Project Charter and Business Requirements Documents by meeting with stakeholders and committees to obtain user requirements
- Proposed an off-the-shelf application that ensured seamless integration, reduced costs, and maximum security by researching current industry solutions and meeting with vendors and industry leaders.

PROJECTS AND ACHIEVEMENTS

Visualization and Analysis of Unstructured Data
CANDEV Data Challenge | January 2020
- Using Python, Pandas and Tableau, our team cleaned and analysed over 40,000 data points for the Treasury Board of Canada Secretariat to create a visualization that would help explore and understand how programs related to business innovation and growth support would change over time.

Waterfront Robotics – Litter Removal Tool
Computer Aided Design Project (CAD) | September 2019 – December 2019
- Designed a 6-axis articulated robot to collect litter from different waterfronts using a gripper
- Produced professional literature review reports, modelling reports, and design reports.
- Engineered drawings of the design with a comprehensive force and stress analysis of every component.
- Designed and assembled the modelled robot drawings using SolidWorks
- Developed a MATLAB simulation code that parameterized the robots design to maximize performance efficiency and manufacturing scaling

Smart Vent Solutions
Technology Entrepreneurship for Engineers | September 2018 – December 2018
- To demonstrate our entrepreneurial skills, our team designed a product through several iterations of market research, customer surveys, and our business model canvas.
- Different marketing strategies and forecasting were used to give insight into the viability of the product
- Design and modelling of an automated mechanical vent through SolidWorks and Simulink
- Once the design was finalized, a prototype was built for a smart vent that helps automate the temperature of individual rooms in a home.

Magnetic Levitator
Control Systems and Mechatronics Project | January 2018 – April 2018
- Integrating Electro-Mechanical Systems, Sensor and Actuator Modelling, Mathematical modelling
- Controlled levitation of a magnet to demonstrate knowledge of control systems, modelling, and design
- The system was modelled and designed in SolidWorks and MATLAB, Circuit Design in Simulink, and prototyping using an Arduino microcontroller and 3D printed.

EDUCATION

BASc in Mechanical Engineering & BSc in Computing Technology
University of Ottawa
- Graduation date: December 2020
- Admission Scholarship of $2,000