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Personal Summary

Software Engineering student with excellent troubleshooting skills ranging from debugging hardware to software. Former experience ranges from designing and hacking embedded systems to natural language processing and artificial intelligence. Meticulous, autodidact, and focused on the end-goal. Ability to work effectively under pressure as well as with members across various subsystems. Confident in my ability to solve any problem regardless of prior knowledge.

Professional Experience

MDA (Mai 2017 – December 2017) – Manufacturing Software Engineer

MDA is a Canadian company which specializes in the development of satellite antennas. Projects such as RADARSAT and the Canadian Arm where completed by this corporation.

- Worked in an environment dealing with highly sensitive information on the scale of national security (Canadian government, NSA, CIA).
- Helped create the company's first automated chain line in the manufacturing department.
- Automation used for project known as OneWeb, estimated at 3 billion $, a constellation of 648 satellites, designed to provide the world with global bandwidth.
- Worked closely with engineers of various backgrounds to code faultless torqueing tools and robotic arms to perform human operations.
- Implemented failsafe features through various use cases. Every operation is tracked and logged into a Microsoft SQL database for further review.
- The automation's success saved the project's life otherwise no revenue would be generated.
- Worked on a schedule planner for the company's intranet which permits floor workers to be assigned to workstations more efficiently.

Automotive Data Solutions (May 2016 – April 2017) – Research & Development Software Engineer

ADS is the lead producer of remote starters in North America. Their products extend to: immobolizer bypass, data bus integration, and audio integration.

- Successfully built and implemented a system of continuous integration. This system allows engineers to deliver products at an exponentially increasing rate due to the reduced likelihood of errors when committing their work. This test-driven strategy proved to be extremely cost and time effective.
- Implemented a new hardware design strategy to resolve test cases using low level devices such as FPGAs and Atmel microcontrollers. These controllers are used to mock the communication from road vehicles.
- Advanced the company's project for their car simulator (Roughly 90% of all road vehicles covered). The process involves bit banging, decryption and pattern recognition. The data is collected with a man-in-the-middle.

Education

Concordia University - Bachelors of Software Engineering (June 2015 – August 2018)

ProceZeus - Capstone (September 2017 – April 2018)

ProceZeus is an AI powered chatbot used to resolve rental board judicial issues. This project was conducted with the corporation of the University of Montreal's CyberJustice lab.

- Successfully designed the world's first open source chatbot which uses machine learning in the domain of law.
- Worked closely on research & development trying out various clustering, dimensionality reduction, classifiers and regression techniques using a sample of 40 000 legal cases.
- Collaborated with lawyers on a biweekly basis and met intermittently with the University of Montreal Institute for Learning Algorithms, a society led by Yoshua Bengio.
- Final classification results range from 84% to 97% accuracy. Regressions on money payments obtained with a mean squared error of 24.

MCGA – Mini capstone (January 2017 – May 2017)

Make Concordia Geographically Accessible is an Android mobile app which helps student navigate the campuses.

- Designed an indoor/outdoor navigation system using Google API and A* algorithms.
- Image processing techniques used to create and generate walkable path for indoor maps. Image binarization through opening and closing mathematical morphology.

Extra-Curricular Activities

VP IT of SAE (2015-2016)

- Hosted private domain independent of the school's software infrastructure.
- Managed the society's databases for over 150 students.

Electrical Leader of SAE Baja (2014-2016)

- Designed and implemented data acquisition computer for the purpose of validating theoretical assumptions about the vehicle's performance.
- Made usage of microcontrollers through the I2C and SPI protocols.
- Work used by capstone teams to conduct their experiments.

Technical Knowledge

Proficient Languages	C, C++, C#, Java, Python
Familiar Languages	PHP, JS, Ruby, VHDL, Prolog, Lisp
Frameworks	Scikit learn, Keras, Tensorflow, NLTK, CoreNLP, OpenNLP, Spacy, Rasa
Technology	Docker, Jenkins, MySQL, PostgreSQL, MongoDB, Node.JS, Arduino, Atmel microcontrollers, STM microcontrollers, Windows, Linux, Android Studio, Xilinx, FPGA