Satchel French

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education

Ryerson University *Apr. 2020*
B.Eng. Electrical Engineering

work experience

Ryerson Multimedia Research Laboratory *Jan. 2020 – Present*
Machine Learning Research Assistant

- Ported legacy MATLAB infrastructure code to Python and PyTorch.
- Implementing machine learning algorithms, with a focus on applied deep learning for granular stress prediction.

Ryerson International Hyperloop *Mar. 2018 – Feb. 2020*
Battery Development Lead

- Headed the selection and implementation of hyperloop battery chemistry, physical construction and safety mechanisms.
- Architected a 355V, 19kW lithium-ion battery pack, adherent to SpaceX specifications, designed to power a Linear Induction Motor.
- Developed a functional test procedure which mitigated risks identified within the failure mode analysis.
- Collaborated with sub-teams and suppliers to reduce battery weight by 30%, while creating a scalable design.

projects

Vision-Based Intelligent Refrigerator

- Utilized PyTorch and Detechron2 to train a R-CNN Object Detector, used to recognize and count refrigerator inventory of packaged goods and common foods.
- Developed and deployed model as a RESTful API micro-service via Flask.
- Collaborated with capstone group members to develop the image capture hardware, a mobile Android application and the integration between modules.

“AlexaCare” Patient Monitoring

- Designed an Amazon Alexa skill to improve response time of traditional call bells for hospital patients.
- Created Python and Django-based backend, to serve patient information and assign call requests to the appropriate healthcare professionals.

Classifieds Automation Bot

- Developed an automation script to repost stale advertisements on the popular classifieds site “kijiji.ca".
- Implemented using Python and Selenium web driver.

achievements

Valeo Innovation Challenge World Finalist – Autonomous Vehicle Category *2018*
1st Place “HackuWeather” Hackathon *2016*
Valedictorian – St. John Paul II Secondary School *2014*

skills

Languages:
Python, Java, C, MATLAB, HTML, CSS, JavaScript, Swift, Bash, Assembly (MIPS),

Other technologies:
Linux, Django, Flask, PyTorch, Jupyter Notebooks, Git, OpenCV, SIMULINK, Quartus, NI Multisim, TI DSP CCS, Vue.js, Docker

relevant coursework

Intelligent Systems, Digital Signal Processing, Multimedia Systems, Embedded System Design, Real-Time Computer Control Systems