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Education

Since 2015 **B. Eng. Software engineering**, *McGill University*, Montreal, Year 4, Graduation Date: December 2019.

Experience

Summer 2018 **Nuance Communications**, *Natural Language Understanding (NLU) Reseacher*, Montreal.
Designed, implemented and tested multitask learning on the Transformer model (arXiv:1706.03762v5). Integrated on top of the codebase tensor2tensor. Objectives of research: increase accuracy on tasks with limited data. Tools: Python,TensorFlow,Tensor2tensor.

Since Summer 2018 **Era Rehab**, *CEO & Co-founder*, Montreal.
Co-founded a start up aiming to digitize the world of physiotherapy with sensors. Analyzing data with ML algorithms to classify and even predict patient's condition. Meeting with clients and researcher, mentors and professionals. Steering company by managing a team of 5. Tools: Trello, Slack, React.js, Android Studio

Winter 2018 **Ericsson**, *Data Scientist - Ericsson Expert Analytics*, Montreal.
Detecting anomalies in telecommunication networks using machine learning algorithms. Finding insights on large data sets using machine learning/deep learning algorithms and statistical classifiers. Cooperating on enterprises projects to demonstrate Ericsson Expert Analytic capabilities. Tools: Python, TensorFlow & Jupyter.

Summer 2017 **Nuance Communications**, *Software Developer Intern - Enterprise Division - R&D Nina Web*, Montreal.
Designed an internal tool by extending a web application and creating a Chrome extension to build tailored demos for customers. Implemented continuous integration. Documentation of Nuance's VA's API. Tools: C#, JavaScript, PowerShell & Chrome Extensions.

Personal & Academic Projects

Since Summer 2018 **Era Rehab Mobile app**, *JAVA - Android Studio*, Designed a mobile app to record and analyze kinematic data. Implemented for researchers and physiotherapists. Algorithms create metrics illustrating the patient's condition.

Summer 2018 **Era Rehab Website**, *React.js*, Basic React.js app to present the startup. See at www.erarehab.ca.

Winter 2018 **Complexe Sequence Generator**, *Python - arXiv:1308.0850*, Coded a hand writing generator using a large LSTM network.

Winter 2018 **NLU Classifier**, *Python - Tensorflow*, Programmed a NN capable of resolving articles ambiguity ("a/the") in a text.

Fall 2017 **Open Source Project**, *Python*, Contributed to PyGeoIpMap. Automated the process and created a graphing tool.

Fall 2017 **MultiPlatform LabManager**, *Java - Android Studio - TravisCI*, Coded a web, desktop and android app to manage a lab.

Summer 2017 **Instagram Bot**, *Python*, Programmed a DNN optimizing Instagram visibility resulting in thousands of new followers weekly.

Summer 2017 **CNN for Visual Recognition**, *Python - Numpy - GCP*, Created a CNN while learning the basic of deep learning.

Spring 2017 **Google Home DIY**, *Python - Raspberry Pi*, Made Google Home on Raspberry Pi with custom requests with Google's API.

Fall 2016 **Chatbot**, *Python*, Programmed a chatbot. Answers from the chatbot are based on a book provided.

Technical skills

Languages & Tools Python, JAVA, Bash, C, Latex, TensorFlow, Tensor2Tensor, Git, Jupyter, OCAML, Pandas, Numpy, OpenCV, OpenPose, Deep Learning, Machine learning, Linux, CSS, HTML, Trello, Slack

Competitions & Clubs

Since 2017 **McGill AI Society (Club)**, Participating in hackathons, talks and AI related activities organized by the society.

Fall 2018 **ImplementAI**, **Winner** 1^{st} **place (2 years in a row)**, Python - OpenPose - Word2Vec - Google Video API - OpenCV.
Built violence detection system for video within 24hrs. Analyzing body movements to detect fighting using OpenPose and decision tree. Analyzing objects in video with Word2Vec by creating a vector space of dangerous words and classify with K-Nearest-Neighbors. Analyzing environment with filters (OpenCV). Created and manually labelled dataset with near 100K observations.

Fall 2017 **ImplementAI**, **Winner** of Mcgill's AI Society Hackathon, Messenger's API - Nuance's Mix.NLU API - OCR by Microsoft.
Designed and developed a chatbot capable of natural language understanding and optical character recognition saving contacts and events by sending a photo of business cards or poster of events. The chatbot sends reminders for events and saves contacts.

Fall 2016 **Autonomous robot**, *Software manager*, **Winner** of Mcgill's robot competition among 135 students.
In teams of eight, we built an autonomous robot capable of finding and manipulating Styrofoam blocks, while navigating within an enclosed area populated with obstacles. Designed, organized the software architecture and coded in Java.