MAX GILLHAM

DATA SCIENTIST

14mfg2@queensu.ca maxgillham.ca 5192164264
maxgillham maxgillham

EMPLOYMENT

Long Tail Financial — Remote
Data Scientist — Jan. 2019 to Current
- Researched and developed various portfolio management techniques including deep reinforcement learning
- Optimised training for policy networks by implementing means of parallel computing and GPU support

InFeild ID — Kingston, ON
Data Scientist — Aug. 2018 to Dec. 2018
- Developed a suite of supervised machine learning algorithms to various plant pests and invasive species
- Engineered data pipeline including image processing and data augmentation
- Trained and deployed models to production in iOS app
- Built additional micro services for app functionality

RBC Amplify - Capital Markets — Toronto, ON
Data Scientist — May 2018 to Aug. 2018
- Worked on a team of 4, tasked to create an artificial intelligence based recommendation engine for RBC Capital Markets
- Built a working product to showcase and present to end users and stakeholders
- Developed micro services to exploit under-utilized data with supervised and unsupervised machine learning
- Engineered data flow through queries, cleaning and normalization
- Product was filed for a provisional patent

PROJECTS

SmartEQ(Qhacks) — Feb. 2019
A smart glasses hack to help children on the autism spectrum better understand their surroundings. Functionality included real time emotion tracking and sentiment analysis of conversations. Used Microsoft Azure Face and Text Analytics to track facial emotions, transcribe audio and determine sentiment rating.

Structurall (Hack MIT) — Sept. 2018
Created a web-app to add structure to phone call audio. Used Revspeech API to map speech to text and Microsoft Azure Text Analytics to conduct sentiment analysis and locate key phases.

8D Audio — Oct. 2018 to Dec. 2018
A web-app where given any YouTube link the user can listen to their chosen song as "8D". Built using Flask, Librosa, SoX, Scipy and various digital signal processing techniques.

Reinforcement Learning for Algorithmic Trading — Sept. 2018 to Current
Final year thesis group project. Given the topic of stochastic control and reinforcement learning, the team focused on applying reinforcement learning to common stochastic control problems in high frequency electronic trading.

AWARDS

Patent Filing — Aug. 2018
Titled as Inventor for a provisional patent with respect to a suite of machine learning algorithms built over summer work term at RBC

MIT · Hackathon Finalist — Sept. 2018
Placed top 10 out of 1000 students at MIT's annual Hackathon for Structurall project.

RBC · Best Innovative Use of Artificial Intelligence — Sept. 2018
Achieved at Hack MIT for Structurall project

Sunlife Financial · Best Healthy Living Hack — Feb. 2019
Awarded at Qhacks for SmartEQ project

TD · Best Green Hack — Feb. 2019
Achieved at Qhacks for SmartEQ project

SKILLS

LANGUAGES: Python, Matlab, R, SQL, Java, JavaScript, C/C++
TECHNOLOGIES: Supervised/Unsupervised Machine Learning, Data Visualization, Data Modelling, Data Analysis, Reinforcement Learning/Deep Reinforcement Learning

EDUCATION

Queen's University — Sept. 2015 to Current
BE Applied Mathematics & Computer Engineering 2019