

Elijah James

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EDUCATION

BSc. Honours Computer Science with Artificial Intelligence Specialisation

Kingston, ON | Sep 2019

QUEEN'S UNIVERSITY

Project Manager (PM): QMIND AI Club: Healthcare Innovation Stream

Mental Health Coordinator: COMPSA

Coursework: Data Structures and Algorithms; Data Analytics, Object Oriented Programming in Java and Python, Machine Learning in Python, Prolog and Knime.

SKILLS

Languages: Python, Java, C, HTML, CSS, Prolog

Technology: Git, Unix

WORK EXPERIENCE

OFFIS | SOFTWARE DEVELOPMENT INTERN

Oldenburg, Germany | May 2022 – Jul 2022

- Optimised performance of non-intrusive speech quality prediction algorithms on a high powered computing cluster using **TensorFlow** and **Keras**. Experimented with relative performance between algorithms and feature selection.
- Taught myself **Numpy** in order to translate a signal processing module written in **Matlab** to **Python**. Wrote a testing pipeline to ensure identical performance between the Python and Matlab versions.
- Automated transferal of files between the high powered computing cluster and a local machine using **Python** over the scp file-sharing protocol.

QMIND | PROJECT MANAGER, DEVELOPER

Kingston, ON | Sep 2020-Present

- Built a voice-print identification program with **Keras** that accurately differentiated between speakers in real time with over 85% accuracy.
- On a team consulting for Ninepoint Partners to predict BTC prices short term, built an ARIMA model with **Scikit Learn**.
- Currently preparing a project timeline as a PM/developer for next year. Will be building a system to digitize hand-written medical records, and encrypt them for privacy.

PROJECTS

DEGREE PREDICTOR

PYTHON, SCIKIT LEARN, PANDAS

A program to help 1st year engineers choose a discipline to study, based on their enjoyment and performance in first year engineering courses.

NSTOI-THIRDOCT

PYTHON, NUMPY

A Python implementation of the MATLAB nstoi library, which computes the third-octave band matrix of a signal.

PERSONAL WEBSITE

JAVASCRIPT, HTML5, CSS, BOOTSTRAP

A personal website, with fluid scrolling and rendering.

CLOTHING CLASSIFICATION PROGRAM

PYTHON, SCIKIT LEARN, PANDAS, NUMPY, DATA VISUALIZATION

A program built for the Camp QMIND hackathon which classifies images of clothing with over 95% accuracy.

VOICEPRINT-IDENTIFICATION

PYTHON, KERAS, SCIKIT LEARN, ASR, AGILE DEVELOPMENT

A model which differentiates between speakers in real time once trained upon a short recording of them speaking. Repository includes a short paper written about the program.

BTC-PREDICTOR

PYTHON, RECURRENT NEURAL NETWORKS, LONG SHORT TERM MEMORY NETWORKS.

A model to predict Bitcoin prices short-term. Used LSTMs and an ARIMA model.