Jeremy Cheung

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Overview

Programming Languages: Python, SQL, Solidity, HTML, JavaScript, C
Frameworks / Tools Used: Numpy, Pandas, Tensorflow, Git, Scikit-learn, Anaconda, Jupyter Notebook, NoSQL, AWS S3, MATLAB, Google Firebase, Svelte, OpenCV, Arduino C, PCB development, Airflow, Docker

Education

- **Master of Mechanical Engineering M.Eng** — **Toronto Metropolitan University**
  Toronto, Ontario — *Sept 2020 – Present*
  Specialization in Applied Machine Learning and Data Science for HVAC Applications
- **Bachelor of Mechanical Engineering B.Eng** — **Toronto Metropolitan University**
  Toronto, Ontario — *Sept 2014 – May 2019*
  Specialization in Mechatronics

Professional Experience

- **Acrylic Robotics** — **Montreal, Quebec**
  Applied Machine Learning Developer — *Oct 2021 – Present*
  - Developed machine learning models to detect and recreate motion of a robotic arms movement using Python and Tensorflow libraries, with 95% accuracy in error testing
  - Applied computer vision preprocessing and 6D pose estimation using large scale datasets to mimic and identify paint strokes from the robot, identifying areas for improvement and fine tuning hyperparameters
  - Programmed a full stack web application using HTML, JavaScript and Svelte to log and display art records according to unique identifiers from the blockchain
- **GHD** — **Toronto, Ontario**
  Data Scientist Intern — *May 2021 – Oct 2021*
  - Created and cleaned datasets using data manipulation and augmentation to perform advanced statistical techniques such as regression and classification in order to identify trends and create complex mathematical models regarding weather data
  - Wrote SQL queries and generated tables to produce high quality numerical ground truth data for use in gas station decommissioning and environmental tabular data
  - Prepared algorithms for data mining and preprocessing using live data to integrate with the machine learning data pipeline, as part of the Machine Learning Dev Ops initiative
- **Leapfrog Energy** — **Toronto, Ontario**
  Energy Consultant Data Analyst Intern — *Sept 2020 - May 2021*
  - Built, configured, and updated a centralized database using Python and SQL for machine learning functionality to analyze hardware sensor readings through Arduino and Modbus protocol to track performance and efficiency of over 20+ HVAC components simultaneously
  - Deployed time series analysis (LSTM and LightGBM) on weather and energy demand data to predict future demand of provincial energy usage, with an RMSE of less than 5% on testing data
  - Using Python libraries NumPy, Pandas, and Scikitlearn, to perform analytical modeling for electrical data across entire manufacturing production plant to track and monitor energy trends
- **Engineering Solutions Intern** — **Taipei, Taiwan**
  Scandinavian Health Limited Group — *May 2018 - Aug 2018*
  - Designed and built in- house experiment stations and testing fixtures using Arduino and C to test PCB inputs and outputs for prototyping test assemblies, resulted in reducing time and cost of initial design phase by 20%
- **Honda Canada** — **Alliston, Ontario**
  Assembly Manufacturing Intern — *May 2017 – May 2018*
  - Enhanced project management and multi-tasking skills through balancing up to 5 different engineering projects simultaneously as well as conducting statistical analysis to identify trends and quantify performance upgrades for various pieces of equipment