Chirag Karia

Machine Learning Developer

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/in/chirag-karia

kidkych

Technical Skills

Programming

Novice ⟶ *Experienced*

Python • SQL • Bash • Docker

Java • NoSQL • Javascript • LaTeX

C • C++ • C# • VB.net

Education

BEng. (Hons) Software Engineering
Specialization: Internet of Things
Ontario Tech University
Oshawa, Ontario
Completed April 2019

MSc. Computer Science
Focus on Reinforcement Learning
Ontario Tech University
Oshawa, Ontario
Expected Graduation in April 2021

Awards

1st Place Team at UOIT's 2019 Electrical & Software Engineering Capstone Competition

Professional Summary

Self-directed and motivated Software Engineering graduate looking to leave his own mark on the world. In pursuit of a Masters of Science in Computer Science with a focus on Reinforcement Learning and Computer Vision. Significant experience in developing machine learning services that leverage various parametric & non-parametric models for clustering, regression, and classification tasks.

Skills

- Exhaustive Linux experience (containerization/virtualization & systems programming) and cloud development experience (Amazon Web Services and Google Cloud Platform).
- Extensive experience with Python and common Data Science & ML/DL libraries such as PyTorch, Pandas, NumPy, Tensorflow, and Keras.
- Significant experience building RESTful applications using both Python and Java based stacks
- Experience working in an agile environment with daily scrums and DevOps practices.

Projects

- Currently in processes of reimplementing Single Shot Detector, a one-shot object detection model.
- Organized the Programming portion of the 2017 Internal Engineering Competition @ UOIT.
- Developed IoT smart-blinds to allow for scheduling and remote control of window blinds.
- Developed prototype active vent system that allows for room-wise control of HVAC state, including using ML to optimize heating/cooling for energy efficiency and comfort.

Experience

Apr. 2017 - Mar. 2019 **Investabit** Machine Learning Developer

Tasked With: Research and development of tools to model trends in the cryptocurrency market.

- Successfully developed a ML service that predicts the direction and value of future price changes of various cryptocurrencies.
- Made use of models implementing deep neural networks of the fully connected, convolutional, and LSTM variety, in addition to models built on gradient tree boosting.
- Experimented with Reinforcement Learning for portfolio management.
- Responsible for reproducing published ML research relevant to finance and portfolio management; involved integrating Docker into workflow to ensure strict coupling between the source code/models being studied and their dependencies.
- Generated reports presenting various tables and graphs outlining performance, alongside other metrics, to effectively communicate findings.

Tools: Python, Pandas/NumPy, Scikit-learn, TensorFlow/Keras, XGBoost, Plotly/Seaborn/matplotlib, Jupyter, Docker, and RLlib (Reinforcement learning framework from UCBerkley).

Publications

S. Mahdavi, S. Rahnamayan, and C. Karia, "Analyzing Effects of Ordering Vectors in Mutation Schemes on Performance of Differential Evolution," in 2017 IEEE Congress on Evolutionary Computation (CEC), pp. 2290-2298, IEEE, 2017.