Nariman Saftarli

Software Developer

saftarli.n@gmail.com nsaftarli.github.io (647)-248-5422 Toronto, Canada nsaftarli nsaftarli

Summary

Computer Science graduate with experience working on enterprise-level software as well as open-ended research problems. Experienced with machine learning and passionate about well-built software.

Skills

PROGRAMMING LANGUAGES: Python, Java, C, MATLAB, JavaScript, Bash/Shell
SOFTWARE/FRAMEWORKS: TensorFlow, Numpy, Keras, Pandas, Scikit-Learn, Git, JIRA/Stash, IntelliJ, Django
DATABASES: SQL, MongoDB
SPOKEN LANGUAGES: English, Russian, Azerbaijani

Employment

Ryerson University — May 2018 to Sept. 2018

Computer Vision Research Assistant

Using Python and TensorFlow, implemented a neural network architecture for learning to create photomosaic art from a given input and templates.
• Developed an original, self-supervised neural network architecture and approach to photomosaic generation, which was accepted as a workshop submission to the European Conference on Computer Vision (ECCV).
• Implemented baseline, non-learned experiments using Scikit-Learn, and showed that the neural network outperformed these both in output quality and speed of photomosaic generation.
• Developed ablation experiments which showed the value of the design choices that were made.

University of Toronto — May 2017 to Sept. 2017

Junior Developer (Co-op)

Contributed to a large project to migrate the University of Toronto Repository Of Student Information (ROSI) from an IBM Mainframe to a distributed Linux platform running IBM WebSphere and DB2 RDBMS.
• Coded programs in Java to handle execution of various batch processing operations on the Repository Of Student Information.
• Converted over 100 batch processing job specifications from mainframe Job Control Language (JCL) to XML-based Job Specification Language and executed them on test data to ensure correct output.
• Debugged SQL queries when expected output did not match produced output.
• Implemented a class to handle SFTP which could be used by other batch jobs when secure file transfer was necessary.

Projects and Volunteering

Image Classification Adversary — Feb. 2019 to Present

Using Python and Scikit-Learn, trained a reinforcement learning agent to break image classifiers.
• Trained a reinforcement learning agent by implementing various algorithms (SARSA, Q-Learning, Monte Carlo) to fool a classifier while altering as little as a single pixel in an image.
• Used Scikit-Learn to train various machine learning models on a binary classification task.
• Augmented data to improve validation performance of classifier.

P2P Photo Album — Mar. 2019 to May 2019

Using Java, implemented a peer-to-peer network for sending and receiving photo data.
• Implemented multi-threaded servers as part of the server architecture.
• Implemented Distributed Hash Table which acted as a directory for peers in the network.
• UDP was used for querying directory servers, TCP was used for file transfer.
• Managed workflow and team co-ordination using ZenHub.

Face Detector — Jan. 2018 to May 2018

Implemented a functional face detector using MATLAB (later re-implemented in Python/Numpy) by training an SVM.
• Used metrics such as mean IoU to minimize overlapping detections.
• Added data augmentation and hard negative mining to improve performance of SVM.
• Multi-scale detection was implemented.

JavaStore — Sept. 2018 to Dec. 2018

Using Java and Swing, created a front and back end for a point-of-sale system.
• Allows users to manage a simple storefront using a Java GUI.
• Database is implemented using JDBC and Oracle SQL.
• Programmed functionality for authentication of multiple users and multiple levels of security.
• Allows administrators to query stock, sales, pricing information, and perform employee management.

Education

Ryerson University

Bachelor of Science in Computer Science
Expected Graduation: June 2019
Minor in Mathematics, cGPA 3.90/4.33
Dean's List 2015-2018