

FRANK LIANG

4th Year Computer Engineering

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WORK EXPERIENCE

Software Engineer – Machine Learning | Salesforce

Sept 2018 – Dec 2018

- Designed a self-tuning anomaly detection model to extract abnormal substrings within an unstructured corpus of database loglines using n-grams and an adaptation of Markov Chains
- Utilized Principle Component Analysis to obtain parameters of interest and optimized parameter values using gradient descent, Maximum Likelihood Estimation, and ROC curves
- Evaluated models with precision and recall benchmarks and relative entropy of the expected results
- Filtered live input data from Splunk using Apache Phoenix and streamed data into Apache Hive for outlier detection using Median Absolute Deviation

Software Developer | IBM QRadar Security Intelligence

Jan 2018 – Apr 2018

- Architected and created a data-driven multi-cloud security analytics platform that analyzes trends in queried log sources and identifies potential threats and vulnerabilities
- Wrote REST API endpoints in Python Flask to query VPC, EC2 logs from AWS through a data pipeline

Software Developer | NexJ Systems Inc.

May 2017 – Aug 2017

- Integrated user-based contact suggestions based on Bayes' Theorem into the telecommunication services of the main customer relationship management product using Java/Scheme

Software Developer | KPMG LLP

Sept 2016 – Dec 2016

- Independently created the first release of a Capital Markets data automation and analysis tool that data-mines transactions from investment banks to generate reports and identify auditory issues using C#.net
- Designed SQL schemas, stored procedures, and scripts in MsSQL to process data from trade reports

PERSONAL PROJECTS

Stock Visualization

- Created a stock visualization platform using ReactJS lifecycle and bootstrap to render stock data in real-time and highlight significant trends using variables obtained from regression analysis of selected inputs
- Wrote REST API endpoints with Axios to query stock data from AlphaAdvantage APIs and wrote Python scripts to efficiently update trend analysis

EDUCATION

University of Waterloo

Candidate for Bachelor of Applied Science in Computer Engineering – **Graduation: April 2020**

Courses: Cooperative & Adaptive Algorithms, Probabilistic Reasoning & Reinforcement Learning, Statistics

SKILLS

Languages: Python • Java • SQL • C • C++ • JavaScript • HTML/CSS • Scheme • VHDL

Libraries: Apache Hive • Apache Phoenix • Apache Airflow • Apache Spark • numpy • scipy • pandas

Environments and Services: Git • AWS • Azure • Windows • Linux/Ubuntu • JMP Data Visualization