Syed Tanveer Jishan

Skills in programming, machine learning and large-scale data analysis

Present Address: Vancouver, BC, Canada
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Qualifications

Experience with several programming languages (**Python, C/C++, R, Scala**) and various databases (**MySQL, Neo4j, MongoDB**).

In-depth knowledge on machine learning algorithms and models. I can build and evaluate a variety of models with large datasets (**Apache Spark ML**) and small datasets (**scikit-learn**), as well as deep learning models with **TensorFlow**.

Solid understanding of graph theory and database. I have worked in projects which require graph algorithms mostly as part of feature engineering (**Neo4J**, **Apache Spark GraphFrames**).

Relevant Experiences

Machine Learning Engineer, MonetizeMore, Vancouver, BC — Oct 2017-Present
Ad Tech company focusing on Ad optimization for media publishers. Part of the work involves automating the bid price flooring, header bidding timeout and bidder exclusion using different machine learning algorithms including reinforcement learning. Built the data pipeline to ingest and munge billions of advertisement impressions per day. Currently involved in building advertisement fraudulence detection system.

Machine Learning Manager, Audience Trading Platform Inc., Vancouver, BC — May 2017-Sep 2017
Part of the work is Ad impression data collection and validation with **Apache Spark** using Python on **Databricks** and **Amazon Redshift**. Scalable machine learning algorithms were applied to the gigabytes of datasets everyday which are extracted from log files and third-party sources in order to build data products.

Machine Learning Co-op, Audience Trading Platform Inc., Vancouver, BC — Apr 2016-Apr 2017
Started working as part of SFU FAS Co-op before moving to full time. Part of the work is Ad impression data collection and validation with **Apache Spark** using Python on **Databricks**.

Graduate Assistant – Big Data Lab, Simon Fraser University, Burnaby, BC — Sep 2015-Apr 2016

Education

M.Sc. in Computing Science, Simon Fraser University, Burnaby, BC — Sep 2015-May 2017
- GPA: 3.76/4.33

B.Sc. in Computer Science, North South University, Dhaka, Bangladesh — May 2010-Dec 2014
- GPA: 3.81/4.00
- Received the highest distinction, **Summa Cum Laude**.

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Selected Projects

All projects are available on my portfolio website and github

Estimating amount of force and torque generated by hand based on FMG Signals 2017

- A machine learning model was necessary to estimate force generated by hand for robot to replicate the human action as there is no first principle law in physics to translate between force myography signals and force generation.
- **Generalized Regression Neural Network** was used along with **Autoencoder** for dimensionality reduction.
- A favorable R2 score (0.82) was achieved after several trial and error.

Stack: TensorFlow, Python

Personalized Temporal Recommender System based on Recurrent Neural Network 2016

- Adding the context of time to the personalized recommender system to address the issue of change in user behavior over time.
- **Recurrent Neural Network** was used instead of traditional matrix factorization method.
- Comparative study was done by building different recurrent neural network models such as **LSTM** and **GRU**.

Stack: Apache Spark, TensorFlow, Python

Publication: Jishan, Syed Tanveer, and Yiji Wang. "Audience Activity Recommendation Using Stacked-LSTM Based Sequence Learning." *Proceedings of the 9th International Conference on Machine Learning and Computing*. ACM, 2017.

Improving Item coverage for recommendation in disjoint social network 2015

- Identified the problem of item coverage due to disjointedness in the social trust network.
- Formulated a solution based on merging the user-item and user-user trust domain which takes advantage of the transitivity nature of **Matrix Factorization Technique**.
- Improved item coverage by 4% compare to the state-of-art model TrustWalker.

Stack: scikit-learn, Python

Publication: Jishan, Syed Tanveer, and Khaled Diab. "TrusTem: Recommendation in Disjoint Social Networks." (Open)