TAWSIF KHAN

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Profile

An inquisitive analytics professional with a background in engineering and mathematics. Dedicated and passionate, enjoys research, mathematical analysis and solving problems that require critical thinking. Experienced programmer with a track record of creating tools, systems and data layers that make analytic functioning more efficient.

Work experience

Consultant, Financial Analytics   08/2017 - present
Aimia Inc., Toronto, Canada

- Perform in-depth research and analysis to derive insights and drive informed business decisions in the Amex and CIBC portfolios
- Develop profitable campaigns in a data-driven way with personalized offers that reduce churn and improve member engagement
- Build business reviews for partners and perform post-campaign analysis to derive key insights and actionable recommendations for future efforts

Client Analyst, Analytics   12/2015 – 07/2017
McKinsey PriceMetrix Co., Toronto, Canada

- Designed performance benchmarking models to help wealth management firms and advisors make fact based decisions
- Developed efficient automated systems to generate quantitative reports for financial advisors
- Communicated with Client Managers and brainstormed ideas for executive reviews of major wealth management firms in the North American industry
- Served Scotia Wealth Management, Desjardins, Odlum Brown and other wealth management firms as the lead analyst in executive reviews

Research Assistant, Dept. of Applied Mathematics   2013 – 2015
University of Waterloo, Waterloo, Canada

- Responsible for independent and collaborative research in the Control of Infinite dimensional Systems group
- Presented and critiqued concepts and results in regular research group meetings
- Published and presented research work in the American Control Conference

Teaching Assistant, Dept. of Engineering and Applied Science   2011 – 2015
University of Waterloo/North South University

- Communicated complex concepts with students during tutorials of 50+ enrollment
- Evaluated exam scripts, developed marking rubrics, managed undergraduate markers
- Individually organized tutorial sessions for students beyond regular duties
- Received exceptional reviews from students and instructors

Education

MMath in Applied Mathematics   2013 – 2015
University of Waterloo, Waterloo, Canada

BS in Electrical Engineering   2008 – 2013
North South University, Dhaka, Bangladesh

Skills

Functional

Python, R, SQL, SAS
Data preparation,
collection, and cleansing
Statistical modelling
Insights presentations

Industry Experience

Credit Cards & Loyalty
Marketing Campaigns
Wealth Management
Financial Markets

Awards

Champion   Traffic Jam Toronto Hackathon, City of Toronto   2015
- Analyzed the unreliability of Toronto road network using Toronto Transit data and located the 50 most unreliable locations of the city which require attention to control traffic congestion. Python and R were used for the project. Team received a prize money of $5000.

3 Minute Thesis Finalist   University of Waterloo   2015
- Represented Faculty of Mathematics in the 2015 University of Waterloo 3MT finals
- Explained the breadth and significance of my thesis to a non-specialist audience
- *URL - https://www.youtube.com/watch?v=u34rAAUxuPE*

Summa Cum Laude   North South University   2013

Daily Star Certificate of Excellence   GCE O and A Level   2008

Projects

Aimia Inc.
- Lead a team of 13 in Aimia's 2018 Data Philanthropy event. Built a data cleaning and segmentation tool using R, and lead 5 other objective streams to deliver a full suite of operational improvement solution to Rainbow Railroad, a Canadian charitable organization
- Introduced bootstrapping to the analytics team for significance testing and built a tool to carry out the tests
- Build a data layer using Amex billing cycle data for more efficient analytic works

McKinsey PriceMetrix Co.
- Developed an automated system using SQL to compute a comprehensive list of performance measures for a given client benchmarked against the industry
- Replicated an in-house software using SQL and VBA for the analytics team which allows more customizability

Advanced Analytics
- Implemented a TFIDF driven gradient boosting regression model for Kaggle Mercari Price Suggestion Challange
- Used RShiny to create a visualization tool for the global terrorism database
- Implemented a Random Forest Classifier to determine the Cuisine using ingredients as feature
- Independently developed a game, Get The Odds, on MATLAB using Min-Max Algorithm
- Collaboratively developed an Image Pixel Classifier on MATLAB using neural networks

TJTO Hackathon
- Collaboratively analyzed Toronto transit data to locate unreliable spots in Toronto's road network

MMath Thesis
- Developed software using MATLAB for optimal state estimation of a dispersive wave equation (*Tags: Kalman filter, Navier-Stokes, Optimal Control, Finite Element Method*)

Bloomberg Hackathon
- Implemented an algorithm using MATLAB and an interface using Python to make intelligent buying-selling orders of stock in the UW Bloomberg Algorithmic Trading competition

BS. Thesis
- Numerically solved 2D Navier-Stokes equation using Fortran to simulate blood flow.

Publications

Computation of the optimal sensor location for the estimation of an 1-D linear dispersive wave equation American Control Conference

http://ieeexplore.ieee.org/document/7172162/?reload=true