Abdus Samad Khan

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EDUCATION

COLUMBIA UNIVERSITY
MS IN OPERATIONS RESEARCH
Aug 2014 - Dec 2015 | New York, NY
Cum. GPA: 4.0/4.0

LAHORE UNIVERSITY OF MANAGEMENT SCIENCES
BSC IN ECONOMICS MATHEMATICS
Aug 2009 - May 2013 | Lahore, Pakistan
Dean's List
Cum. GPA: 3.82 / 4.0

LINKS

Github:// **khansamad47**
LinkedIn:// **asamadkhan**

COURSEWORK

GRADUATE
Machine Learning
Big Data Analytics
Neural Networks
Algorithms (TA)
Stochastic Models
Linear Programming

UNDERGRADUATE
Statistics
Econometrics (TA)
Probability
Data Structures
Graph Theory

SKILLS

TECHNOLOGIES
C++ • Shell • Python • R
JavaScript • Git • LaTeX
Familiar:
Java • MEAN Stack • SQL
Hadoop Ecosystem

EXPERIENCE

BLOOMBERG LP | SOFTWARE DEVELOPER
Feb 2016 – Present | New York, NY

- Part of the team which develops and maintains MAV position management system
- Graduated from a 15 week long training class on C++ and Bloomberg's proprietary technologies

COLUMBIA BUSINESS SCHOOL | RESEARCH ASSISTANT
May 2015 – Aug 2015 | New York, NY

- Worked with **Garud Iyengar** to develop a novel benchmark, to assess the accuracy of heuristic methods which are used to estimate the solution of a class of intractable supply chain problems
- Assisted in modeling and implementing this benchmark as linear and dynamic programs and solved them on R
- Implemented and assessed efficiency of our benchmark via Monte Carlo simulation
- Improved computation times by integrating C++ code in R

LUMS | RESEARCH ASSOCIATE
Jan 2014 – May 2014 | Lahore, Pakistan

- Constructed SPDE to model residential mortgage backed securities
- Calibrated CIR and Vasicek interest rate models using log likelihood technique

RESEACH PROJECTS

BINARY EMBEDDINGS WITH STRUCTURED HASH PROJECTIONS
Worked with **K Choromanski** on an extension of Johnson Lindenstrauss lemma. We considered a projection mechanism using binary structured matrices followed by non linear mapping and showed that this approach preserves angular distance in the hashed space and leads to negligible loss in accuracy when used with Deep Neural Nets.

TOPIC MODELING OF USPTO PATENTS
Worked on a project for Goldman Sachs to develop a system to infer a patent's technological fields from a set of 2.6 Million patents in an unsupervised fashion. Built custom measures to assess topic quality, and data visualizations.

NTRU ENCRYTION: A PYTHON LIBRARY
Worked under IBM Reseach Cheif Scientist, **Ching-Yung Lin** to develop an open source library to perform analytics on encrypted domain using NTRU encryption.