TARUN CHHABRA

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OBJECTIVE

Looking for full time opportunities starting May 2017

EDUCATION

University of Illinois at Urbana-Champaign, Illinois, USA — **May 2017**
Master of Science in Statistics — *CGPA- 3.95 /4.00*

University of Illinois at Urbana-Champaign, Illinois, USA — **Jan 2016**
Master of Science in Civil Engineering — *CGPA: 3.64/4.00*

Birla Institute of Technology and Science, Pilani, India — **July 2013**
Bachelor of Engineering in Civil Engineering — *CGPA: 8.69/10.00*

RESEARCH AND ACADEMIC PROJECTS

Machine Learning in Trading — **Course Project**

- Developed a trading system which predicts the daily returns of stocks using algorithms like Elastic Net, Kernel Regression and K Nearest Neighbors.
- Incorporated a dynamic trading strategy by classifying the investments into 5 different levels using algorithms like KNN, SVN, LDA, QDA & Random Forest.
- Performed feature engineering for improving efficacy and back testing for model selection.

Stochastic Model for Pricing of CAT Bonds — **Research Project**

- Developed a stochastic model to estimate the pricing of catastrophe bonds with earthquakes as peril.
- Modelled deterioration of structures as a random variable to estimate the catastrophic losses.
- Reduced the basis risk borne by the investors and information risk borne by insurers by the analysis results.

Predictive Analysis of Impact of Climate Change on Catastrophe Insurance Premiums — **Research Paper**

- Simulated hurricane tracks using IPCC Reports on modelled sea surface temperature and pressure.
- Developed a new derivative model to reduce premiums and transfer risk from insurance companies to capital market
- Recommended solution has been published in International Conference of Structural Reliability and Safety.

Movies Recommender System — **Independent**

- Developed a recommender system using the movies rating data from MovieLens.org.
- Implemented item similarity algorithm to build content based system.

Natural Language Processing: Spam Detection Filter — **Independent**

- Developed a spam detection filter using the **nltk** library in Python for text messages data.
- Performed NLP techniques like removing the punctuation marks and stop-words, stemming and splitting.
- Used Term Frequency- Inverse Document Frequency to improve the efficacy and Naïve Bayes for classification.

Data Visualization: 911 Calls Data — **Capstone Project**

- Performed feature engineering techniques to create more features to answer some of the basic queries.
- Used **Seaborn** and **Matplotlib** to analyze the data visually and gain insightful information

WORK EXPERIENCE

Teaching Assistant, Department of Computer Science, UIUC — **Jan 2015- Present**

- Conduct lectures, office hours and make machine problems on **Java** for more than 150 students.
- Honored with Outstanding Teaching Assistant Award.

Data Infrastructure Engineer, Axis Capital, Champaign, USA — **June 2016 - Aug 2016**

- Developed an insurance pricing prototype to automate the process of pricing of policies.
- Prototype uses Excel VBA tool to export data from excel spreadsheets and SQL to store the data in Microsoft data base.

Product Owner, TESCO HSC, Bangalore, India — **Jan 2013- July 2013**

- Following agile scrum defined the product vision, product road map and prioritized requirements from stakeholder.
- Led a team of 15 IT professionals for developing JUVO application used by TESCO's customer service agents.

SKILLS

- Advanced - Python, Java, SAS, MySQL, R, VBA
- Intermediate - Apache Spark, MATLAB, Mathematica