Shefali Khatri

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Available: May 2022 - Dec 2022
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Education

Northeastern University (Seattle, WA) **Expected Graduation: May 2023**
Candidate for a Masters of Science in Computer Science, GPA: 4.0/4.0
Specialization: Machine Learning and Artificial Intelligence
Courses: Data Mining, Algorithms, Data Structures, Discrete Math, Object-Oriented Design

University of Illinois at Chicago (Chicago, IL) **May 2013**
Bachelors of Science in Finance (Minor: Economics), GPA: 3.5/4.0

Technical Skills

Languages: Python, Java, SAS, C, SQL
Operating Systems: UNIX, Windows
Data Science: Pandas, MLxtend, Jupyter, Statistical Modeling, Time series

Work Experience

Northern Trust Company (Chicago, IL) – *Senior Analyst and Second VP* **April 2018 – December 2019**

- Developed and executed statistical models for Federal Reserve's regulatory stress testing requirements.
  - Forecasted (under various scenarios): Deposits, loans, client fees, and expenses.
  - Models delivered: Linear Regressions, ARIMAX, and Log-Linear Regressions.
  - Analyses performed: 22 statistical models and 23 qualitative estimations.
  - Coverage included: ~$1.6 billion in annual pre-provision net revenue.
- Presented forecasting results to executive governance committees.
- Ensured robustness of models by validating residual normality and detecting autocorrelation, multicollinearity, and heteroscedasticity violations.
- Managed consulting engagement for development of model execution platform in SAS.
- Guaranteed correctness of SAS code by user acceptance testing and debugging programmatic errors.
- Evangelized Machine Learning adoption to organization leadership for solving business problems.

Northern Trust Company (Chicago, IL) – *Analyst (Data Science) and Second VP* **November 2015 - April 2018**

- Conducted exploratory data analysis to detect outliers, trends, stationarity, and seasonality in time series.
- Delivered SAS program in execution platform to automate formatted analytics reporting in Excel.
- Provided analytical expertise to Procurement resulting in cost savings of $3.3 million.
- Developed a modeling framework to compute operational deposits for liquidity coverage ratio.
- Quantified and presented interest rate risk of non-interest income to C-Suite to guide bank strategy.

Global Economics Group, LLC (Chicago, IL) – *Economic Research Analyst* **July 2013 - November 2015**

- Performed regression analysis using R and QGIS (geographic information system) on Chicago housing data.
  - Valued economic impact of Chicago Park District at $900 million.
  - Received letter of recognition from Chicago Mayor Rahm Emanuel for economic valuation.
- Assessed artificial inflation in equities, bonds, and options from fraud using statistical analysis.
  - Analyzed: Trading volume, analyst report coverage, bid-ask spread from TICK data
  - Proved: Causation through linear regressions and chi squared tests.
  - Reported: Expert drafts on stock market efficiency through quantitative analyses.
- Detected arbitrage opportunities by testing autocorrelation in stocks and put-call parity in options.
- Reconstructed pension models to assess damages for litigation on state-wide pension reform.

Projects

Song Recommendation System Northeastern University **August 2021**

- Developed a song recommendation system on implicit data using Alternating Least Squares Matrix Factorization

Checkers Northeastern University **November 2020**

- Developed the board game Checkers with a computer opponent using Python and Turtle Graphics.