PRERIT SAMRIA

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EDUCATION

Northeastern University **Boston, MA**
*Master of Science in Operations Research (**GPA:** 3.96)* *May 2021*
Relevant Coursework: Data Mining in Engineering, Engineering Probability and Statistics, Statistical Methods in Engineering

Indian Institute of Technology Delhi **New Delhi, India**
Bachelor of Technology in Production and Industrial Engineering *May 2018*
Relevant Coursework: Stochastic Modeling and Simulation, Linear Algebra and Differential Equations

SKILLS

Programming Languages: RStudio, Python, MATLAB **Data Visualization:** Tableau, Power BI, Spotfire
Database Management: MySQL, PostgreSQL, SQL Scratchpad, IBM Netezza, Teradata, MS Access, MongoDB, SQLite, AWS
Data Analysis: NumPy, Pandas, Seaborn, Plotly, Scikit-Learn, TensorFlow, Keras, Supervised Machine Learning, Advanced MS Excel
Software: SPSS, Minitab, SAS, Git, Jupyter, Anaconda, LaTeX, MS Excel, AMPL, CPLEX, LINGO, Maple, Simulink
Statistical Techniques: Regression Analysis, Time Series Forecasting, ANOVA Analysis, Hypothesis Testing, One Factor Experiment
Certifications: Mastering Data Analysis in Excel, Managing Data with MySQL, Python for Data Science & Machine Learning Bootcamp

PROFESSIONAL EXPERIENCE

State Street Global Advisors **Boston, MA**
Quantitative Research Analyst Co-op *July 2020 - Dec 2020*
- Introduced new identifiers to optimize the merging of 3 data tables with monthly frequency comprising of 10000+ rows
- Applied Hierarchical Risk Parity (HRP) algorithm in RStudio to diversify a portfolio to minimize volatility and maximize returns
- Computed inverse-variance weights for groups of assets; Proposed modification to impose weight constraints on individual assets
- Estimated natural rate of interest and trend growth rate using Excel and RStudio for advanced economies - USA, UK, Canada, Euro
- Attained accuracy of 95% w.r.t Federal Reserve Bank of New York on estimating natural rate of interest and trend growth rate

Northeastern University **Boston, MA**
Graduate Teaching Assistant and Grader; Courses-Deterministic & Probabilistic Operations Research *Jan 2020 - April 2021*
- Assisted instructor with forming the curriculum, study material, grading & uploading marks, record keeping, and other tasks
- Evaluated assignments, homework and exams; Held weekly office hours to solve doubts and communicate with 90+ students

WIRTGEN GmbH **Windhagen, Germany**
Supply Chain Analyst Internship *May 2017 - July 2017*
- Managed quality in logistics relevant to the factory floor of 4+ departments by assisting in production and assembly activities
- Developed, implemented and provided summary and detailed inventory analysis reports to management
- Maintained effective and clear communication between the floor workers, managers, and the upper management

New Holland Fiat India Pvt Ltd **Noida, India**
Supply Chain Analyst Internship *May 2016 - July 2016*
- Devised scrap reduction program with floor workers to reduce the direct material costs on formed metal products
- Reduced breakdown costs of machines through use of kaizen by periodically repairing and maintaining the machines across factory
- Revised 2- and 3-dimensional CAD models of the plant through the use of SOLIDWORKS software to include new machines

ACADEMIC PROJECTS

Supervised Machine Learning Project- Presence of Heart Disease in Patient **Boston, MA**
Course Project, NEU *Sep 2019 - Dec 2019*
- Designed classification problem using R Studio to predict presence of heart disease; Analyzed data set with 100000+ records
- Preprocessed and visualized data to gain insight on the correlation among the predictors using R studio and Tableau
- Applied k-NN, Naive Bayes, Classification Tree, Logistic Regression and Neural Network machine learning techniques to model
- Achieved highest accuracy of 85.52% using Neural Network model after using cross-validation for training set

Predicting COVID-19 Case Concentration in Massachusetts Municipalities **Boston, MA**
Course Project, NEU *Feb 2021 - Mar 2021*
- Analyzed how certain demographics of towns in Massachusetts predict that town's total COVID-19 case counts throughout pandemic
- Sampled 50 from 361 towns/cities in Massachusetts; Compiled data for Population Density and Median Household Income
- Visualized data to gain insight on outliers and correlation between the dependent & independent variables in Minitab and SPSS
- Implemented Simple & Multiple Linear Regression Models with COVID-19 case counts as independent variable in MS Excel & SPSS
- Deduced significant relationship with Population Density and no relationship with Median Household Income from ANOVA analysis

Visualization Project using Tableau- Increase Completion Rate of Users **Boston, MA**
Self Project *Mar 2020 - May 2020*
- Conducted exploratory data analysis on 170000+ records to find factors that lead to increase in test completion rate of users
- Investigated and uncovered interesting data observations from combinations of predictors for users in the United States
- Transformed data into easily-consumable, actionable insights by designing powerful visualizations & dashboards using SQL queries

Social Security Office Queueing System **Boston, MA**
Course Project, NEU *Mar 2020 - April 2020*
- Simulated current queueing model as k-M/G/1 in Simulink to predict the average waiting time a visitor spends in queue at SSA office
- Proposed M/G/k queueing model to replace existing model; Reduced average waiting time in queue from 47 mins to 7 mins

Radiation Dosage Optimization **Boston, MA**
Course Project, NEU *Mar 2020 - April 2020*
- Proposed linear programming problem to minimize radiation dosage to critical area while satisfying radiation dosage to tumor area
- Executed 3 different linear programming formulations in AMPL; Visualized the radiation dosage to the affected cells in Maple
- Conducted sensitivity analysis on limit and penalty parameters of radiation over tumorous and critical areas