

PRERIT SAMRIA

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EDUCATION

Northeastern University

Candidate for Master of Science in Operations Research (GPA: 3.954)

Relevant Coursework: Data Mining in Engineering, Engineering Probability and Statistics, Integer and Nonlinear Optimization

Boston, MA

Expected May 2021

Indian Institute of Technology Delhi

Bachelor of Technology in Production and Industrial Engineering

Relevant Coursework: Stochastic Modeling and Simulation, Linear Algebra and Differential Equations

New Delhi, India

May 2018

SKILLS

Programming Languages: RStudio, Python, MATLAB

Database Management: MySQL, SQL Scratchpad, IBM Netezza

Data Visualization: Tableau, Spotfire, MS Excel

Data Analysis: Exploratory Data Analysis, Data Wrangling, Predictive Modeling, Supervised Machine Learning, Advanced MS Excel

Software: Git, Jupyter, Anaconda, LaTeX, MS Excel, AMPL, CPLEX, LINGO, Maple, Simulink, SPSS

Optimization: Linear, Integer & Nonlinear Programming; Network Analysis, Large-Scale Optimization and Decomposition

Statistical Techniques: Regression Analysis, Time Series Forecasting, Hypothesis Testing

Certifications: Mastering Data Analysis in Excel, Data Visualization & Communication with Tableau, Managing Big Data with MySQL

PROFESSIONAL EXPERIENCE

State Street Global Advisors

Quantitative Research Analyst Co-op

Boston, MA

July 2020 - Dec 2020

- Introduced new identifiers to optimize the join of 3 data tables with data for every month 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 by applying Kalman Filter for advanced economies - USA, UK, Canada, Euro
- Analyzed and manipulate data on databases and workbenches such as Netezza, BABEL, Aginity

Graduate Teaching Assistant and Grader

Deterministic Operations Research & Probabilistic Operations Research, NEU

Boston, MA

Jan 2020 - Present

- Assist instructor with study material, grading, uploading marks, record keeping, and other tasks
- Evaluate assignments, homework and exams; Holding weekly office hours to solve doubts and communicate with 75+ students

WIRTGEN GmbH

Industrial Engineering Internship

Windhagen, Germany

May 2017 - July 2017

- Expedited assembly, logistics and quality assurance related aspects for cold milling machines, recyclers, and slipform pavers
- Managed quality in logistics relevant to the factory floor of 4+ departments by assisting in production and assembly activities

ACADEMIC PROJECTS

Supervised Machine Learning Project- Presence of Heart Disease in Patient

Course Project, NEU

Boston, MA

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

Visualization Project using Tableau- Increase Completion Rate of Users

Self Project

Boston, MA

Mar 2020 - May 2020

- Conducted exploratory data analysis in data set with 170000+ records to find factors that lead to increase in completion rate of users
- Determined different table calculations in Tableau to rank the order of tests taken by each user for particular dog
- Designed powerful visualizations to transform data into easily-consumable, actionable insights to support the recommendation

Social Security Office Queueing System

Course Project, NEU

Boston, MA

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

Course Project, NEU

Boston, MA

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

LEADERSHIP EXPERIENCE

Husky Speaking Club

Facilitator and Student Leader

Boston, MA

April 2020 - Present

- Design and facilitate weekly 60-minute sessions to foster an environment for students to practice public speaking
- Collaborate with Education Coordinators to educate international students on communication, speaking, speech, & interviewing skills

IIT Delhi Soccer Team

Institute Captain for the term 2017-2018

New Delhi, India

July 2015 - May 2018

- Led 16 membered Team representing IIT Delhi in various tournaments; Conducted trials for restructuring the team
- Coordinated summer camp for training of incoming talent of 70+ students; Administered logistics for all soccer matches
- Negotiated unprecedented involvement of alumni through formation of alumni team for intra-IIT league and sports tournaments