PRERIT SAMRIA

Available from May'21 | Boston, MA | samria.p@northeastern.edu | 617-319-4588 |
linkedin.com/in/Psamria | github.com/psamria

EDUCATION

Northeastern University **Boston, MA**
*Candidate for Master of Science in Operations Research (**GPA:** 3.954)* *Expected May 2021*
Relevant Coursework: Data Mining in Engineering, Engineering Probability and Statistics, Integer and Nonlinear Optimization

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
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 **Boston, MA**
Quantitative Research Analyst Co-op *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 **Boston, MA**
Deterministic Operations Research, NEU *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 **Windhagen, Germany**
Industrial Engineering Internship *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 **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

Visualization Project using Tableau- Increase Completion Rate of Users **Boston, MA**
Self Project *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 **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

LEADERSHIP EXPERIENCE

Husky Speaking Club **Boston, MA**
Facilitator and Student Leader *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 **New Delhi, India**
Institute Captain for the term 2017-2018 *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