NASHEED JAFRI

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EDUCATION

Ph.D. Mathematics (Ph.D. Minor in Data Science) **GPA : 3.98**
M.S. Applied Statistics **GPA : 4.00**
Indiana University, Bloomington, IN 2020 - 2026

M.S. Mathematics **GPA : 3.70**
Indian Institute of Technology, Delhi, India 2018 - 2020

B.S. Mathematics (Honors) **GPA : 3.82**
University of Delhi, India 2014 - 2017

PROJECTS

Home Credit Default Risk

• Collaborated with a team of 3 data scientists to predict loan defaults for Home Credit using Machine Learning techniques in Python. Models used - Logistic Regression, XGBoost, SVC, Decision Trees, Random Forests
• Applied EDA, feature engineering, PCA, and hyperparameter tuning to achieve 92% test accuracy

Approximate Bayesian Computation for Disease Outbreak

• Developed ABC model in R to fit an epidemic model for influenza A and B outbreaks in Michigan and Seattle
• Simulated data, evaluated parameter priors, and recreated key findings from Tony and Stumpf, 2010

EXPERIENCE

University of Illinois, Urbana - Champaign, IL 2023 - 2024
INMAS Trainee (Internship Network in Mathematical Sciences)
• Completed training workshops on Python, Statistics and Machine Learning
• Analyzed Redfin Data, applied linear regression to predict variable, computed statistics on the data
• Performed exploratory data analysis, inference, and model diagnostics on datasets of wine samples

Indiana University, Bloomington, IN 2021 - 2026
Associate Instructor in Linear Algebra for Data Science
• Managed a 45-student classroom, mentored students in key subjects like quantiles, data redundancy, singular value decomposition, least squares, correlation matrices and Greedy approximation
• Planned engaging weekly group learning activities within the class setting

Assistant Instructor in Probability and Statistics for Data Science
• Taught statistical inference, regression, Bayesian statistics, confidence intervals, hypothesis testing

REU Mentor
• Mentored two undergrads in a graduate-level study on Fourier Transform

Research
• Conducting research in Linear Algebra and Matrix Theory, exploring uniqueness of invariant subspaces for nilpotent matrices under similarity transformations, focusing on specific combinatorial conditions
• Presented findings at conferences at Arizona State University and Rose-Hulman Institute of Technology

Shades of Happiness Foundation (Non-Profit), Delhi, India 2015 - 2016
Teaching Volunteer
• Educated underprivileged high school students in Math, Science, English at a non-profit organization
• Advocated for women's health and hygiene, organized donation drives and fundraisers for events

SKILLS

Mathematics: Probability, Statistics, Linear Algebra, Differential Equations, Numerical Analysis, Graph Theory, Functional Analysis, Fourier Analysis, Econometrics, Markov Chains, Monte Carlo Simulations, MCMC

Data Science: EDA, Inference, Regression, Classification, Predictive Models, Machine Learning, Neural Networks, PCA, Statistical Computing, Approximate Bayesian Computation, Decision Trees, Random Forests

Programming: R, SQL, Python - Pandas, Numpy, Scikit-learn, TensorFlow, PyTorch; Git Version Control