KUSHALA RANI TALAKAD MANJUNATH

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Summary

Graduate student in Applied Mathematics with expertise in programming languages, tools and statistical analysis for data-driven decision-making. Skilled in extracting, cleaning, and modeling complex datasets, building predictive models, and creating insightful visualizations. Seeking to apply analytical skills to support business strategy, optimize resources, and drive better decision-making.

Education

Northeastern University   Boston, MA, USA
Master of Science in Applied Mathematics, GPA: 3.524   Jan 2024 – Dec 2025
Relevant Courses: Neural Networks and Deep Learning, Machine Learning, Numerical Analysis, Applied Statistics

JSS Science and Technology University   Mysore, India
Bachelor of Engineering in Civil Engineering, CGPA: 8.83   Aug 2019 – Jul 2023
Relevant Courses: Matrix Method of Structural Analysis, Advanced Calculus, Computational Mathematics

Skills

Programming Languages: Python, R, MATLAB, SQL, C
Software Tools & Packages: NLP, Pandas, NumPy, TensorFlow, Keras, PyTorch, Matplotlib, Seaborn, Power BI, Dashboards, Microsoft Office Suite, Jupyter Notebook, Google Sheets, LaTeX, GIS (Geographic Information System) CAD (Computer-aided Design), AutoCAD, STAAD PRO (Structural Analysis and Designing Program)
Certifications: Top 10 percentile in International Academic Wiz (IAW), Matrix Method of Structural Analysis (NPTEL), Python for Data Science (NPTEL), MATLAB

Experience

Administrative Assistant, Bridge to Calculus (BtC), Boston, MA   Apr 2025 – Aug 2025
• Analyzed and optimized around $250K program budget for a 6-week STEM program serving 100+ underrepresented students, including scheduling for classes, tutoring sessions, and faculty meetings.
• Supported hiring and onboarding of summer interns and mentors to ensure smooth program operations, coordinated annual campus events and streamlined administrative operations by implementing digital systems and automations.
• Utilizing tools such as SQL, Microsoft Office Suite (Word, Excel, PowerPoint, Outlook), Google Workspace, Adobe Acrobat, and Excel/Sheets for data tracking and reporting.

Teaching Assistant, Northeastern University, Boston, MA   Jan 2025 – Apr 2025
• Worked for Applied Mathematics Capstone by guiding 30+ undergraduate students on mathematical modeling projects by guiding data analysis, simulation, and technical writing.
• Mentored student teams on end-to-end pipelines including data pre-processing, model training, and performance evaluation, grading, managing submissions on Canvas, ensuring consistent evaluation standards for final capstone deliverables.
• Provided academic support through feedback on reports, presentations, and project methodologies using tools such as Python, MATLAB, R, Microsoft Office Suite and LaTeX.

Projects

Detecting Gravitational Waves Using CNNs (Neural Networks)   Jan 2025 – Apr 2025
• Developed a CNN model in a graduate course at Northeastern University, building convolutional neural network model to analyze LIGO's GWOSC and synthetic data for detecting and classifying gravitational wave signals from black hole and neutron star mergers.
• Modelled using TensorFlow, SciPy, scikit-learn, Matplotlib and achieved 90% real-data prediction accuracy with a scalable, automated detection pipeline.

Foreign Exchange Rate Forecasting (ML)   Jan 2024 – Apr 2024
• Created a graduate-level project at Northeastern University, analyzing EUR/USD exchange rate trends and evaluating medium-term forecasting performance, highlighting predictive limitations across statistical and deep learning approaches.
• Integrated using ARMA, LSTM, and Prophet models in Python with libraries such as yfinance, NumPy, pandas, and Matplotlib for data collection, preprocessing, and visualization.

Impact of the COVID-19 Pandemic on Students (R)   Jan 2025 – Apr 2025
• Designed an Applied Statistics project in a graduate course at Northeastern University, analyzing survey data from 1,182 students to study the impact of COVID-19 on time management, digital learning, and well-being.
• Executed using Chi-Square Tests, ANOVA, T-tests, Correlation, and Logistic Regression, contributing to data acquisition, cleaning, modeling, and final report preparation using Python/R and Excel.