Kushala Rani Talakad Manjunath

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Summary

Graduate student in Applied Mathematics with expertise in SQL, Python, R and statistical analysis for data-driven decision-making. Skilled in extracting, cleaning, and modeling complex datasets, building predictive models, and creating insightful visualizations. Strong communicator with proven ability to translate analytics into actionable business recommendations.

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, Applied Statistics, Numerical Analysis

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

Work Experience

Administrative Assistant, Bridge to Calculus (BtC), Boston, MA Apr 2025 – Aug 2025
- Analyzed and optimized $200K program budget using SQL and Excel, identifying inefficiencies, improving allocation for financial sustainability and optimizing resource allocation to enhance impact for 100+ underrepresented STEM students.
- Built dashboards to track KPIs, enhancing transparency by improving cross-team communication, coordinated annual campus events and streamlined administrative operations by implementing digital systems and automations, improving team communication and reducing preparation time by 30%, while achieving 95% participant satisfaction.

Teaching Assistant, Northeastern University, Boston, MA Jan 2025 – Apr 2025
- Worked as Teaching Assistant for Applied Mathematics Capstone by guiding 30+ undergraduate students on ML model development, deployment workflows, and reproducibility best practices.
- Conducted workshops on Git version control, collaborative coding practices for data science projects, mentored student teams on end-to-end pipelines including data pre-processing, model training, and performance evaluation.

Student Mentor, Bridge to Calculus (BtC), Boston, MA Jun 2024 – Aug 2024
- Worked as a mentor in Precalculus for High School Students of BPS (Boston Public Schools).
- Involved in mentoring for Project Math and Math for Biology and Chemistry, also helped in working NetLogo Web to come up with Models for Biology.

Intern, Public Works Department (PWD), Mysore, India Aug 2022 – Sept 2022
- Participated in on-site management of road and park construction activities, overseeing tasks related to scheduling, material handling, and team coordination.
- Assisted with various phases of bituminous road construction-base preparation, bituminous coating, mix laying, and surface compaction as well as installation of kerbs, pavements, and road studs.

Projects

Detecting Gravitational Waves Using CNNs Jan 2025 – Apr 2025
Developed a CNN model in a graduate course at Northeastern University using real and synthetic LIGO GWOSC data to detect gravitational waves from BBH, BNS, and NSBH events, applying advanced signal preprocessing to improve classification accuracy and successfully identifying GW170817 with 90% confidence.

Foreign Exchange Rate Forecasting (ML) Jan 2024 – Apr 2024
Developed a graduate-level project at Northeastern University applying statistical time series analysis and deep learning (RNNs and CNNs) to model medium-term EUR/USD currency pair movements, analyzing 6,119 historical observations and improving predictive accuracy with actionable insights for technical analysis.

Volunteer Experience: Served as academic support instructor at an NGO (Make A Difference), teaching mathematics to final-year high school students for two years.