

Bhanu Harsha Yanamadala

Boston, MA (Open to relocation) | (401)-368-9812

bhanuharsha.ya@gmail.com | [linkedin.com/in/bhanu-harsha-y](https://www.linkedin.com/in/bhanu-harsha-y) | github.com/BhanuHarshaY | [Portfolio](#)

EDUCATION

Northeastern University | Boston, MA Jan 2025 – May 2027
Master of Science in Computer Science GPA: 3.80/4.0
Coursework: Programming Design Paradigm, DBMS, Algorithms, Machine Learning, Web Development

GITAM University | Visakhapatnam, India Jan 2020 - May 2024
Bachelor of Technology in Computer Science and Engineering GPA: 8.73 (Distinction)/10.0
Coursework: OOP, Data Structures, Deep Learning, Operating Systems, Computer Networks, Cloud Computing

TECHNICAL SKILLS

Programming Languages: Java, Python, JavaScript, TypeScript, SQL, R, C
Web Technologies: React, Next.js, Node.js, Express.js, Redux, HTML, CSS, RESTful API, Vercel, Render, Streamlit
Databases: MongoDB, MySQL, SQLite, NoSQL
Machine Learning & Data: PyTorch, TensorFlow, scikit-learn, Pandas, NumPy, NLP, Prompt Engineering, LLM APIs, matplotlib, seaborn, Terraform, Hugging Face.
Tools & Frameworks: SDLC, Git, Docker, Kubernetes, AWS, GCP, Power BI, Tableau, CI/CD Pipelines, Figma
Certifications: AI Practitioner (AWS), Data Structures (UCSD), ML with Python (IBM)

EXPERIENCE

Insight X Research Lab, Northeastern University Boston, USA
Research Assistant – Generative AI Jan 2026 – Present

- Developing a multi-objective **prompt optimization system** with **DSPy** and Llama-3.1-8B to generate counter-narratives against online hate speech, improving generation quality across **16 metrics** compared with fine-tuning baselines.
- Designed a **16-metric reward framework** across **6 categories** and integrated Detoxify, RoBERTa-MNLI, SBERT, BERTScore, and GPT-2 for automated evaluation, enabling consistent assessment of counter-speech quality.

Fluentgrid Limited Visakhapatnam, India
Software Development Intern May 2023 – Jul 2023

- Automated** recurring reporting **workflows** by designing an end-to-end data pipeline using Selenium WebDriver for web scraping and PDF downloads, eliminating manual data acquisition and reducing **retrieval time from 30 min to under 2 min per report**.
- Developed **data preparation workflows** using **Tabula-py** and **pdfplumber** to parse multi-section regulatory PDFs, implementing custom CSV-splitting logic to isolate 5 distinct data tables, reducing manual processing time by 95%.
- Engineered a **chatbot backend** using Python, TensorFlow/Keras, and NLTK, trained a neural network on 40+ intent categories to automate first-level client engagement and reduce repetitive support queries.

PROJECTS

Kambaz LMS | Next.js, React, TypeScript, Node.js, Express, MongoDB, Redux

- Built a full-stack LMS with role-based access control for 4 user roles (Faculty, TA, Student, Admin), featuring course management, modules, assignments, and enrollments using 40+ React components.
- Developed a comprehensive quiz module supporting multiple question types, timed assessments, access code validation, auto-submission, and automated scoring with real-time state management using Redux.
- Designed and deployed 43 RESTful API endpoints across 7 MongoDB collections with secure session-based authentication and cross-origin support; hosted on Vercel (frontend) and Render (backend).

Calendar Application | Java, JUnit, MVC Architecture, Design Patterns

- Architected a full-featured Java calendar application leveraging Object-Oriented Programming principles, MVC architecture, and design patterns (Command, Strategy, Factory) across 20+ classes with 3 interface modes (Swing GUI, CLI, headless).
- Implemented multi-calendar support across time zones with automatic conversion, recurring events with conflict detection, and CSV import/export functionality across global time zones. Demonstrated the use of SDLC and project management.
- Ensured code reliability through JUnit 4, implementing 60+ test cases covering unit, integration, edge cases, error handling, and integration scenarios across controller, model, and view components.

Enterprise Analytics Platform | R, MySQL, SQLite, ERD

- Designed normalized (3NF) relational schemas and star schema data warehouses, implementing both OLTP and OLAP systems for restaurant and media distribution domains.
- Developed scalable ETL pipelines processing 140K+ records, integrating data from multiple sources into cloud-hosted MySQL with automated reporting and stored procedures.

Store Sales Time Series Forecasting | Python, Pandas, XGBoost, LightGBM, CatBoost

- Engineered end-to-end ML forecasting pipeline processing 3M+ transaction records across 54 stores and 33 product families, implementing stacked ensemble (XGBoost, LightGBM, CatBoost) with advanced temporal features (Fourier series, rolling statistics, socioeconomic indicators) and Ridge meta-learner, achieving Top 20% on Kaggle leaderboard.