

Harshvardhan Bhosale

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EDUCATION

Master of Science in Computer Science

University at Buffalo, Buffalo, NY

Expected December 2025

GPA 4.00

Courses: Data Structures, Algorithms, Deep Learning, Operating Systems, Cloud Computing, Engineering Management

Bachelor of Science in Computer Science

Indian Institute of Information Technology, Pune, MH

June 2024

GPA 3.91

Courses: Object Oriented Programming, Machine Learning, Software Engineering, Database Management Systems

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, TypeScript, C, C++, Rust, HTML/CSS, SQL

Technologies: Redis, Docker, GitHub, GitLab, CI/CD, Jenkins, Linux, REST

Frameworks: Spring Boot, React.js, Node.js, Express.js, Socket.io, PyTorch, Tensorflow, Keras, Pandas

Databases: PostgreSQL, MySQL, OracleSQL, MongoDB

EXPERIENCE

Software Development Intern | Nomura

January 2024 – July 2024

- Developed a dependency upgrade tool using TypeScript, orchestrating seamless integration via GitLab pipelines, significantly reducing manual intervention and ensuring consistent updates.
- Upgraded three Oracle database instances, achieving a 40% increase in data processing speed.
- Constructed a robust Spring Boot application utilizing JMS, JDBC, and Oracle SQL for trade reporting achieving a 25% reduction in trade processing time.
- Improved documentation accessibility by scraping Confluence pages to generate vectorized word embeddings, successfully training GPT-based language models that achieved an average BLEU score of 51%.

Software Development Intern | Microsoft

May 2023 – July 2023

- Managed the ingestion, caching, and processing of over 1 million radiology reports using Azure Redis Cache, significantly reducing retrieval and processing latency by over 50%
- Implemented and evaluated solutions for semantic highlighting of critical medical text, substantially enhancing the readability and accuracy of radiology reports.
- Developed NLP-driven text summarization methods, enabling rapid synthesis of medical data from detailed reports, thus accelerating clinical review processes.

PROJECTS

Enigma – Realtime Chat Application | JavaScript, MongoDB, Express.js, React.js, Node.js, Socket.io, OAuth, Render, Vite

- Engineered and deployed a full-stack, real-time chat application leveraging the MERN stack, integrating Socket.IO for bidirectional communication.
- Architected and implemented scalable backend APIs, intuitive React-based frontend components, and a robust MongoDB schema, ensuring seamless real-time message delivery and persistent storage.
- Boosted application performance by implementing efficient data handling and connection management with Socket.IO, capable of supporting concurrent users without degradation in real-time responsiveness.

DiveDash – D&I Monitoring Tool | Java, Spring Boot, PostgreSQL, React, DaisyUI, AWS Cloud

- Conceptualized and deployed a full-stack web application using Spring Boot 3, React, and PostgreSQL to enable organizations to effectively monitor Diversity & Inclusion (D&I) initiatives.
- Engineered a robust backend leveraging Spring Boot 3 and JDBC, implementing ATOMIC transactions to efficiently process and manage multiple concurrent requests, ensuring data integrity for D&I monitoring.
- Implemented novel algorithms within DiveDash, leading to a top 5 finish at the Nomura Hackathon and a 20% enhancement in predictive accuracy during live demonstrations.

NBEATS – Stock Market Predictor | Python, Tensorflow, Keras, Pandas, Seaborn, NLP

- Originated a novel ensemble deep learning model to predict stock market trends by integrating time-series analysis (N-BEATS) with investor sentiment derived from social media, addressing the volatility observed post-2020 pandemic.
- Assembled a comprehensive data pipeline to scrape and process over 1 million social media posts, leveraging BERT for sophisticated sentiment analysis to extract key investor sentiment signals.
- Trained and fine-tuned the N-BEATS model on historical stock market data, and the BERT model on social media sentiment, culminating in an ensemble that achieved a Mean Absolute Error (MAE) of 27 on S&P 500 and a classification accuracy of 0.8.