Neha Kolambe

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Education

University of Colorado, Boulder **August 2024 – May 2026**
Master of Science in Computer Science, ***GPA: 4.0/4.0*** *Boulder, USA*

Sardar Patel Institute of Technology **August 2018 – May 2022**
Bachelor of Technology in Information Technology, ***GPA: 9.07/10*** *Mumbai, India*

Technical Skills

Languages: Python, Java, C++, SQL, Bash, PHP, JavaScript, Go, R, Rust, Scala, Kotlin, Ruby
Frameworks and Libraries: Hive, JDBC, Spark, REST APIs, Junit, Cucumber, Flask, Docker, Spring, Spring Boot, React, Angular, Django, Tkinter, Swing, AWT, TensorFlow, Pandas, NumPy, Data Visualization, Pytorch
Databases: SQL, MySQL, Oracle, MSSQL, NoSQL
Tools and Technologies: Maven, Gradle, Git, Prometheus, Grafana, YAML, JSON, Terraform, IntelliJ, Eclipse, Microsoft Visual Studio, PyCharm, Mockito, Openshift Fabric, Bitbucket, WordPress, Tableau, Helm, Jenkins, Excel, Jupyter Notebook, Node
Cloud and Distributed Computing: Kubernetes, AWS, Glue, EC2, RDS, GCP, Google Cloud Compute, Google Cloud Storage (GCS), Google Kubernetes Engine (GKE), Cloud Firestore, GCP Functions, RabbitMQ, Databricks, Apache Airflow, Kafka, Hadoop
Operating Systems: Linux, MacOS, Windows
Software Development Practices: Full Stack Development, Agile, Data Structures, Problem-Solving, Data Science, Statistics, Mathematics, Data Analytics, Business Analytics, Media Analytics

Experience

Deutsche India – Treasury, TDI | *Senior Analyst* **July 2022 – July 2024**

- Built a fault-tolerant data ingestion pipeline in Java and Spring Boot to consolidate data from diverse sources into Oracle, improving reliability by 35% and streamlining NII calculations.
- Designed and implemented an automated testing framework for onboarding processes, reducing manual QA by 50% and accelerating release cycles.
- Enhanced CI/CD pipelines using TeamCity and deployed containerized services on OpenShift, reducing deployment effort by 30%.
- Delivered reconciliation features through tight collaboration with stakeholders, ensuring 100% on-time delivery and accurate financial reporting.

Panel Technologies India Private Limited | *Web Development and Research Intern* **January 2022 – July 2022**

- Engineered a hybrid recommendation engine in Python and Scikit-learn, improving accuracy by 15% and increasing user engagement by 20%.
- Streamlined deployments using Git and Bitbucket, cutting release cycle time by 25% and enhancing CI/CD consistency.
- Built ML pipelines with rigorous preprocessing and feature engineering, improving model precision by 20%.
- Redesigned the company website using HTML, CSS, and JavaScript, reducing bounce rates by 30% and elevating user experience.

Projects

VoxOff: AI-Powered Karaoke Web App - Link **April 2025**
Built a full-stack web application that lets users sing along to their favorite songs by removing vocals and syncing lyrics in real time. Designed a scalable architecture using Kubernetes for container orchestration and Terraform for infrastructure as code, with services written in Python and JavaScript. Implemented audio processing techniques for high-quality vocal separation and integrated cloud storage for secure data handling. Focused on delivering real-time performance and a smooth user experience across browsers and devices.

NarrateNow: Chapter-wise audiobook generation service - Link **December 2024**
Developed a Python-based scalable application that converts EPUB books into chapter-wise audiobooks exercising Google Text-to-Speech API. Designed a Kubernetes-based microservice architecture, employing RabbitMQ and Redis for task orchestration and real-time tracking, while integrating Google Cloud Storage for secure data handling. The service processed an 11-chapter book (150 pages) in under 4 minutes and demonstrated the ability to handle 50+ simultaneous requests without errors, emphasizing reliability and scalability.

MoodyTunes: A DL-based Music Mood Classifier - Link **December 2024**
Developed a deep learning-based music classification system by make use of Python, TensorFlow, and Keras to categorize songs into emotional moods—happy, sad, calm, and energetic. Integrated enriched datasets from Spotify (278k songs) and Last.fm, achieving 90.67% accuracy by leveraging MFCCs, spectral contrast, and user tags. Optimized neural networks such as ANN, RCNN, and LSTM, resulting in an average performance boost of 4% across all models.

Publications

Detection of Mental Disorder on Social Platform - Link **February 2022**
Engineered an LSTM-based prediction model with 97% reliability to identify mental disorders as per consumer behavior on social platforms. The platform offered comparative analysis of data over specific periods, aiding users in assessing potential conditions. A custom survey tool collected behavioral evidence, providing actionable insights into trends, while advanced machine learning techniques ensured the model's robustness and reliability.

Farming Made Easy using Machine Learning - Link **May 2021**
Designed a predictive model utilizing Python and Scikit-learn to forecast crop prices built on historical pricing and weather data, improving precision by 20%. Developed a bilingual chatbot for real-time communication and a shop bot for e-commerce integration, boosting user engagement by 25%. Integrated multimedia guides to simplify complex farming techniques, enabling widespread adoption among farmers.