Bhairavi Sawantdesai

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EDUCATION

New York University **New York, NY, USA**
Master of Science in Computer Engineering *Sep 2023 - May 2025*

TECHNICAL SKILLS

Programming Languages: Java, Python, JavaScript, TypeScript, Go, C/C++, Swift, R
Libraries and Tools: PyTorch, Sklearn, Pandas, Numpy, OpenCV, Git, Docker
Web Development: React, Vue.js, Angular, Node.js, Express.js, GraphQL, RESTful APIs

Big Data & Databases: PostgreSQL, MySQL, MongoDB, Redis, Cassandra, Neo4j, DynamoDB, ELK Stack

Cloud & DevOps: AWS (Lambda, DynamoDB, S3, EC2), GCP, Azure, Kubernetes, Docker, Terraform, Jenkins, CI/CD

WORK EXPERIENCE

Graduate Research Assistant
New York University, NY, United States *Aug 2024 - Dec 2024*

- Architected and deployed a high-fidelity recession detection framework, integrating advanced econometric models with time-series anomaly detection across 1.2M+ macroeconomic indicators from FRED and ALFRED, achieving a 15% improvement in predictive accuracy.
- Enhanced economic forecasting pipelines by implementing multivariate signal processing techniques and Markov-switching dynamic regression models, leading to a 30% reduction in prediction latency and improved regime-change detection.
- Engineered a scalable, event-driven data pipeline utilizing Apache Spark for distributed processing and AWS Lambda for asynchronous compute tasks, enabling real-time economic trend updates with sub-2-second latency.

Software Development Engineer 2
Accenture, MH, India *Jun 2021 - Jul 2023*

- Designed and deployed a serverless event-driven architecture using AWS Lambda, DynamoDB, and S3, achieving a 40% reduction in compute costs and sub-2s system response times.
- Built and optimized a Vue.js & GraphQL analytics dashboard for 30K+ users, implementing state management and API optimizations to improve rendering performance by 40%.
- Developed distributed microservices on Kubernetes, handling 10M+ daily transactions, reducing deployment time by 50% and improving system fault tolerance.
- Led full-stack feature development, designing 20+ scalable React.js components while migrating monolithic systems to microservices; automated CI/CD pipelines with Jenkins, Docker, and Ansible, reducing release cycles from 4 weeks to 5 days and ensuring zero-downtime deployments.

PROJECTS

StoryCrafter GitHub
Developed an AI-powered storytelling app using AWS Rekognition for image analysis and OpenAI's GPT for story generation. Implemented secure authentication with AWS Cognito and integrated AWS API Gateway for RESTful API interactions. Leveraged AWS Lambda for scalable backend operations, hosted on AWS EC2, and used AWS DynamoDB for efficient data storage.

RAG Powered Summarizer Web App GitHub
Developed a Next.js frontend and Flask backend for an AI-powered text summarizer using RAG and the `sshleifer/distilbart-cnn-12-6` model, achieving sub-3s response times for 10,000-word inputs.

CineMatch – AI Movie Recommendation GitHub
Built a recommendation system using MinHash segmentation and ALS on the MovieLens dataset (33M+ ratings, 86K+ movies), achieving an ALS MAP of 0.9378 and Jaccard Similarity of 0.95. Validated with a Pearson correlation of 1.00 and RMSE of 0.8793.

FoodForThought GitHub
Optimized an AI-powered food classification model for real-time inference on Kubernetes, improving accuracy from 76% to 89% with transfer learning and CNN fine-tuning while reducing latency to 239ms and cutting costs by 30% through auto-scaling.

TaskManager – Full-Stack Task Management App GitHub
Engineered a task management system using Java, Spring Boot, and H2 database, supporting 1,000+ concurrent users while reducing API response time by 35% through optimized query execution and caching strategies.