# Bhairavi Sawantdesai

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## SUMMARY

Computer Engineering graduate from NYU with 2+ years of experience delivering robust full-stack applications, scaling backend infrastructures, and deploying machine learning systems in production environments. Proven track record in optimizing APIs, accelerating data pipelines, and modernizing frontend frameworks for performance and reliability. Adept at bridging software engineering with AI/ML workflows using tools like Python, Java, React, and AWS. Passionate about building secure, high-performance, and user-centric technology across the stack.

## TECHNICAL SKILLS

**Languages:** Python, Java, C/C++, JavaScript, TypeScript, Go, Rust, C#, Swift
**Frameworks & Libraries:** React, Angular, Vue, Node, Express, Spring Boot, Django, .NET, TensorFlow, PyTorch, scikit-learn, Keras, OpenCV, Hugging Face
**Databases & Web:** PostgreSQL, MySQL, Oracle, Redis, Firebase, SQL, NoSQL, HTML, CSS, REST APIs, GraphQL
**Cloud & DevOps:** AWS (Lambda, DynamoDB, S3, EC2), Jenkins, Docker, Kubernetes, Git, GitHub

## WORK EXPERIENCE

### Graduate Research Assistant

New York University, NY, USA                                                                                 Aug 2024 – Dec 2024

- Implemented a real-time recession forecasting pipeline to process 1.2M+ macroeconomic indicators, enhancing prediction accuracy by 15% through advanced anomaly detection and econometric modeling.
- Applied Markov-switching models and multivariate filters to detect regime shifts with 30% lower latency, enabling faster recognition of market transitions in research outputs.
- Orchestrated a scalable, event-driven data infrastructure using Apache Spark and AWS Lambda, delivering sub-2s dashboard refreshes and an accelerating downturn signal surfacing by 20%.

### Software Engineer 2

Accenture, MH, India                                                                                         Jun 2021 – Jul 2023

- Engineered backend services for transaction-intensive systems using Spring Boot, optimizing API throughput to improve response speed by 18% and reduce system errors by 25%.
- Redesigned a client-facing interface in React and facilitated a monorepo migration, streamlining development workflows and reducing build failures by 60%.
- Led the migration of a sales and strategy dashboard from Angular to Vue, cutting frontend load times by 35% and improving user engagement for 30K+ global users.
- Refactored ETL pipelines built on Informatica, minimizing data latency by 25% and improving the reliability of cross-regional sales and marketing insights.
- Streamlined release operations by enhancing CI/CD pipelines with Docker and Jenkins, reducing manual intervention by 50%, accelerating regression testing, and improving overall deployment reliability.

## PROJECTS

**StoryCrafter** GitHub
Programmed an AI-driven storytelling app combining AWS Rekognition for image analysis and OpenAI's GPT for narrative generation; secured user access with AWS Cognito, connected RESTful APIs via API Gateway, and deployed scalable backend services using AWS Lambda, EC2, and DynamoDB.

**RAG Text Summarizer Web App** GitHub
Developed a Next frontend and Flask backend for an AI text summarizer using RAG and `distilbart-cnn-12-6` model, achieving sub-3 second response times for 10,000-word inputs through caching, async handling, and model quantization.

**CineMatch – AI Movie Recommendation** GitHub
Architected 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.

**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.

## EDUCATION

### Master of Science in Computer Engineering                                                               GPA: 3.7/4

New York University, NY, USA                                                                                  Sep 2023 – May 2025
Relevant Coursework: Advanced Machine Learning, Deep Learning, Big Data, Operating Systems, Network Security