Parag Shah

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EDUCATION

State University of New York   **Buffalo, NY**
Master of Computer Science & Engineering in AI (GPA: 3.97/4.00)   *May 2025*
Earned **Teaching Assistantship for Theory of Computation and Analysis of Algorithms** from a competitive pool of 300+ students.
Relevant Coursework: Advanced Machine Learning, Deep Learning (LLMs), Cloud Computing, Data Structures and Algorithms.

Rajiv Gandhi Proudyogiki Vishwavidyalaya   **India**
Master of Computer Science & Engineering in AI (GPA: 3.5/4.00)   *Sep 2020*
Publication: Titled "Text Preprocessing & Comparative Study of Cosine Similarity & TF-IDF", published in the IJSREM. (**Paper**)

WORK EXPERIENCE

Best Practical Solutions (Link | Demo)   **Buffalo, NY**
AI Engineer Intern   *Aug 2024 – Dec 2024*
- **Reduced weekly ticket resolution time by 10+ hours by designing a GenAI extension** for the Request Tracker system, leveraging LLMs (ChatGPT, LLaMA) for AI-powered autosuggestions.
- Improved identification of priority issues by 50% through sentiment analysis and automated ticket summarization.
- **Enabled language support across 18+ countries** by integrating multilingual autocomplete and AI-driven response generation.

Tata Consultancy Services   **India**
Software Engineer II   *Mar 2022 – Dec 2023*
- **Led fintech projects at Moody's Analytics, benefiting 400,000+ customers across 5 banks** by developing a Credit Risk and Investment Monitoring system using Java Spring Boot, PostgreSQL, AWS (backend), and Next.js, React, Material UI (frontend).
- Collaborated with cross-functional teams to build a machine learning NLP model with 95% accuracy for analyzing financial records.
- Boosted KPI visibility and business insights 2x by **designing data models from a Redshift data warehouse and integrating Sisense dashboards** for over 10M financial trend records.
- Accelerated testing and deployment process by 3x through test-driven development, achieving 80% unit-testing coverage with Junit & Mockito, comprehensive automation testing, peer reviews, and feature documentation.
- Delivered 10+ production releases and **managed DevOps workflows across Dev, CI, UAT, and Prod environments** using Docker and GitHub Actions, with performance monitoring via Datadog.

Software Engineer   *Sep 2020 – Feb 2022*
- **Boosted customer acquisition by 30% at TTB Bank by launching a full-featured banking web app** with E-KYC, payments, and investment modules, in collaboration with product and QA teams.
- Reduced developer effort by 50% and 2x component reusability by developing 20+ scalable UI/UX components using React.js.
- Enhanced SEO by 35% and reduced API response time by 1.5x by **upgrading backend architecture to micro-services with Java Spring, implementing GraphQL and RESTful APIs**, and enabling server-side rendering with Next.js.

SKILLS

Backend & Databases: Java, Spring Boot, Hibernate, Junit, Node.js, Express.js, PostgreSQL, Oracle, MongoDB, DynamoDB.

Frontend: TypeScript, JavaScript (NPM, Yarn), React, Next.js, Material UI.

Generative AI & ML Tools: Python (Scikit-learn, Pandas), FastAPI, PyTorch, LangChain, LLMs, Chromadb.

Deployment & Tools: Git, Docker, Kubernetes, Jenkins, CI/CD, AWS (EC2, Lambda, S3, IAM), Redis, Okta, Kafka (learning).

ENGINEERING PROJECTS

E-commerce Web Application | Java | Spring | JWT | Docker | Kubernetes (**Link**)   *Jan 2025*
- Simulated a scalable Java-based e-commerce app with a high-traffic microservices architecture, building an API gateway, rate limiting with Nginx, and Redis caching.
- Reduced unauthorized API calls by 99% by implementing secure SSO using Okta OAuth and JWT-based authentication.
- Streamlined deployment by 40% through CI/CD pipelines with Jenkins and enhanced code quality via SonarQube integration for static analysis.

Lighthouse NGO | Healthcare | Hackathon | Machine Learning | LLMs | Chatbot | Node.js (**Demo**)   *Sep 2024*
- Empowered 1,000+ immigrants to access suitable healthcare plans by building an NLP-based AI recommendation system in collaboration with Lighthouse NGO.
- Increased awareness of government-aided insurance by developing a full-stack platform, researching 100+ healthcare programs.
- Implemented accessibility features for users with special needs by integrating voice support and developed an AI chatbot trained on 10 K+ medical queries to assist with personalized insurance selection.

Custom ORM Framework | Low-Level design | Java Reflection | SQL | XML (**Link**)   *Jul 2023*
- Optimized database interaction for Java engineers by eliminating 90% of boilerplate code through a custom ORM framework featuring annotation-based entity mapping, SQL generation, and configurable DB connections.
- Minimized runtime errors by designing a validation system with 10+ custom validators and robust exception handling to enforce schema-level constraints at the database layer.