Aditi Vakeel

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SUMMARY

Results-driven Software Engineer with a Master's in Computer Science from NC State University and hands-on experience in full-stack development, AI/ML, and cloud-native systems. Proven experience in building scalable web apps, automating data workflows, and deploying intelligent solutions across diverse domains. Strong collaborator with a focus on performance, reliability, and user-centered design.

WORK EXPERIENCE

NC State University — Raleigh, NC
Software Engineer — *December 2023 – Present*
- Developed full-stack web architecture for Probabilistic Risk identification (PRA) application using ReactJS, Typescript, and MongoDB.
- Redesigned frontend and backend for 2 core features to enhance scalability with modular design patterns improving user efficiency by 30%.
- Designed and deployed high-performance and scalable RESTful APIs using Nest.js, boosting system reliability by 40%.

NC State University — Raleigh, NC
Data Analyst – Research Assistant — *January 2023 – May 2023*
- Leveraged Python to automate over 15+ data processes, decreasing analysis latency by 80%.
- Improved data models by enhancing predictive accuracy through multivariate regression and spatial analytics by 20%.
- Built 10+ interactive dashboards and visualizations to communicate cyclone forecasts and land resilience studies, increasing stakeholder understanding and decision-making accuracy by 30%.

Rubrik — Bengaluru, India
Software Support Engineer — *February 2022 – July 2022*
- Collaborated with 100+ global storage & backup clients, crafting personalized tech solutions with a 95% satisfaction rate.
- Enhanced tools for analyzing system logs within a distributed system using Linux, resulting in a 25% reduction in analysis time.
- Documented knowledge-based articles on frequent issues in Confluence using Jira stats, reducing repeated inquiries by 15%.

Food Parrot — Hyderabad, India
Software Engineer – Full Stack — *August 2020 – July 2021*
- Architected robust web and mobile interfaces using ReactJS and React Native, integrating tightly with backend to maintain a 90% API uptime.
- Optimized front-end performance, reducing page load times by 10% through strategic prefetching and asynchronous API calls.
- Improved back-end efficiency by implementing Redis caching strategies in the Node.js application, significantly speeding up CRUD operations.
- Enforced Accelerated Mobile Pages (AMP) for mobile screens, directly contributing to a 25% surge in mobile search traffic.
- Participated in agile sprints, stand-ups, and retrospectives, driving continual process improvement and fostering feedback culture.

PROJECTS

Cloud based Expense Auditor (Top 5 in class) | *Python, Java, Firebase, MongoDB*
- Created a multi-user Android app to track and share expenses with real-time SMS and email alerts, web scraping & more. Integrated with Firebase for authentication, secure data storage, and optimized CI/CD pipeline. Deployed a Python-backed Telegram chatbot for similar functionalities and MongoDB storage.

AI Automation Workflow Platform | *React, Django, SQLite, OpenAI, YOLO*
- Built a modern full stack AI -powered workflow automation platform that leverages AI/ML capabilities for task automation.

Information Diffusion in Eating Disorder Communities | *Python, NetworkX, PyTorch, Matplotlib, NumPy*
- Engineered an optimized Linear Threshold Model to analyze propagation dynamics within subgraphs of the network. Devised a novel algorithm leveraging weighted edges and centrality metrics to quantify and evaluate the influence factors in the diffusion processes within online social networks.

EDUCATION

NC State University — Raleigh, NC, United States
Master of Science in Computer Science — *August 2022 – May 2024*

Sreenidhi Institute of Science and Technology — Hyderabad, India
Bachelor of Technology in Computer Science — *August 2018 – June 2022*

TECHNICAL SKILLS

Languages: Python, Java, C/C++, C#, SQL, JavaScript, TypeScript, HTML, CSS
Frameworks: FastAPI, Django, Flask, React, Express, NestJS, NextJS, Ruby on Rails
Databases: PostgreSQL, MongoDB, Redis, SQL Server, MySQL, Cassandra
AI/Machine Learning: LangChain, RAG, openAI, Prompt Engineering, TensorFlow, PyTorch, scikitlearn, OpenCV, NumPy, Matplotlib
Containerization & Architecture: Docker, Kubernetes, Microservices
Cloud & DevOps: AWS (EC2, S3, DynamoDB, IAM), GCP, Azure, RabbitMQ, Kafka, Git, DataDog, Apache Spark
Other: RESTful APIs, GraphQL, Agile methodologies, Unit Testing, Networking, Linux, Operating Systems

PUBLICATIONS

Machine Learning Models for Predicting and Clustering Customer Churn Based on Boosting Algorithms and Gaussian Mixture Model, at the 2022 IEEE -International Conference of Advancement in Technology.