

Vinay Upadhyayula

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EDUCATION

Binghamton University, State University of New York, Thomas J. Watson College of Engineering and Applied Science
Master of Science in Computer Science | Cumulative GPA: 3.87/4.00 December 2024

Relevant Coursework: Data Structures and Algorithms, Programming for the Web using MERN Stack, Data Science, Computer Architecture, Database Systems, Object Oriented Design, Operating Systems, Computer Networks and Security

TECHNICAL SKILLS

Programming and Scripting Skills: Java, Typescript/Javascript, Python, C/C++, HTML, CSS

Database and Query Languages: MySQL, Elasticsearch, MongoDB, Google Firebase, Spring JPA

Frameworks & Tools: AWS, Spring Boot, Next.js, Angular, Spring MVC, REST API, Maven, React JS, Scikit Learn

PROFESSIONAL EXPERIENCE

Tata Consultancy Services, Full Stack Developer | Client: Proximus | Hyderabad, India January 2021 – December 2022
Workforce Management Integration Layer

- Engineered a full-stack Workforce Management application utilizing Apache Camel, XSLT, Angular, and Spring Boot
- Engaged with analysts and stakeholders, providing demonstrations from feature description through post-implementation testing phases that led to a 55% decrease in the average handling time of a request

National Directory Search

- Developed a Directory search portal project for a leading Belgium Client using Spring Batch Processing, Spring Boot, Angular, REST, Elasticsearch DB, Spring Cloud, Jenkins and Openshift container platform
- Played a key role in the product development from the project initiation phase to the handover phase
- Orchestrated a strategic Agile project that contributed to a 4.2 million euro increase in client profitability

Central Digital Communication Platform eXtension - Test Automation Integration

- Developed a UI functionality integrating Angular 10 and Node JS to Selenium-based Web Service Automation
- Devised and executed the functionality that significantly reduced manual testing overhead, resulting in substantial cost savings of over 40% for the client

FELLOWSHIP EXPERIENCE

Headstarter, Software Engineering Fellow | Remote July 2024 – September 2024

- Built and deployed AI projects using React JS, Next.js, Firebase, Clerk, and Vercel, following agile methodologies with weekly sprints and incorporated CI/CD practices for iterative deployment
- Collaborated with a team of four to develop an interactive customer support agent using Next.js, integrated a custom RAG pipeline using OpenAI and Pinecone that responds based on a company's knowledge base
- Participate in weekly sessions with engineers from Google, Y Combinator, Stanford, Amazon, and venture startups

PROJECT EXPERIENCE

Sentiment Pulse - Twitter(X) Sentiment Analysis, Course Termination Project August 2024 – December 2024

- Performed exploratory data analysis and implemented machine learning regression models, achieving 92% accuracy in tweet sentiment prediction, with user sentiment prediction enabled via an interface
- The intuitive user interface leverages Next.js and Django based architecture and google firebase for user authentication

Pantry Guru - Pantry Tracker using AI, Independent Project

July 2024 – August 2024

- Designed and implemented a pantry tracking system using NextJS, Tailwind CSS, and Google Firebase
- Utilized a Large Language Model (LLM- Google Gemini) to analyze and add items to the database based on the image captured or uploaded by the user

Astra - Personalized AI Chatbot, Group Project

August 2024

- Developed a context-based AI chatbot using NextJS, Material UI, and a Large Language Model (LLM)
- Deployed the app to Amazon EC2 and achieved Retrieval Augmented Reality (RAG) using Amazon Bedrock API and Meta Llama 3.1

LEADERSHIP EXPERIENCE

Binghamton University, Computer Science Department, Teaching Assistant

August 2023 – December 2024

- Gained expertise by contributing as a Teaching Assistant for Data Structures and Algorithms using C++
- Assisted students in coursework completion, grading, conducting lab sessions, and hosting office hours every week for a class of 80+ students

GRIET, Class Representative

August 2016 – September 2020

- Acted as a point of contact between students and the department, addressed student issues and difficulties in coursework, curricular and extracurricular activities, and helped in designing electives that aligned with the latest industry standards