Dhruv Parthasarathy

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AWS Certified Solutions Architect Associate with 4+ years of full-stack development experience

EDUCATION

Master of Science in Software Engineering Systems **Expected Aug 2024**
Northeastern University, Boston, MA
Data Structures & Algorithms, Cloud Computing (GCP, AWS), LLMs, Generative AI, Deep Learning, Object Oriented Programming

CERTIFICATIONS & CONFERENCES

- AWS Certified Solutions Architect Associate *(Credential)*
- Web Co-chair, 22nd IEEE International Conference on Software Architecture *(ICSA 2025)*

PROJECTS

Cloud Computing and Infrastructure as Code (IaC) [*Packer, Terraform, GCP, CI/CD*] *(GitHub)*

- Developed cloud-native solutions on Google Cloud, designed 12-Factor compliant RESTful APIs, and streamlined CI/CD pipelines with Terraform to enhance scalability and operational efficiency

AI Based Natural Language to SQL Architecture [AWS, *Python, LangChain, LangSmith, AWS, LLMs*] *(GitHub) (Website) (YouTube)*

- Implemented an LLM driven chatbot using GPT-4 for natural language to SQL query generation, facilitating intuitive database interactions for non-technical users. Deployed on AWS for a scalable and reliable architecture

WORK EXPERIENCE

Northeastern University, Boston, MA **Jan 2024 - Present**
Graduate Teaching Assistant – Prompt Engineering & Generative AI [*LLMs, Langchain, Vector Databases, Streamlit*]

- Directed a comprehensive research initiative on Prompt Engineering for Generative AI and Retrieval Augmented Generation (RAG),
- Assessed course assignments and provided mentorship to 10+ student team projects, enhancing engagement and comprehension in Prompt Engineering and AI applications *[Course Content Creation, Case Studies]*

Running Tide, Portland, ME **May 2023 - Dec 2023**
Full Stack Software Engineer [*Typescript, React, NextJS, NodeJS, GCP, CI/CD, Jest, Cypress, Vercel, TDD*]

- Spearheaded the development of a React-NextJS reusable component library, yielding a 20% reduction in development time across projects within a monorepo, enhancing code reusability and maintainability
- Migrated the front-end of the application from ReactJS to NextJS, React Query and TypeScript, resulting in a reduction in development and deployment time by 30%, while achieving enhanced performance and maintainability
- Implemented test-driven development (TDD) practices, achieving a notable milestone of 100% test coverage for backend NodeJS services resulting in a 15% decrease in post-deployment issues and an overall improvement in system reliability
- Engineered a reporting service using NodeJS, PhantomJS and Handlebars libraries to automate report generation, reducing time by over 99%, from 5 hours to less than 1 minute to create and schedule a report

Northeastern University, Boston, MA **Sep 2022 - May 2023**
Full Stack Software Engineer [*Figma, Responsive UI, Accessibility, Python, Flask, GCP, CI/CD, ARIA, HTML, CSS*]

- Designed and Built three Python – Flask-based web applications with accessibility features and responsive User Interface, which resulted in a 5% increase in user interaction rate [monaminkara.com, minkaracombinelab.com, planestrainsandcanes.com]
- Shifted sites to GCP and established CI/CD pipelines, automated version updates and achieving a 70% reduction in deployment time

Mu Sigma Innovation & Development Labs, Bangalore, India **Aug 2018 – Aug 2022**
Sr. Software Engineer [*Java, NodeJS, ThreeJS, D3, Highcharts, React, Angular, Docker, Socket.io, GitLab, CI/CD*]

- Led a 5-member team in the successful delivery of a Java based open-source backed BPMN tool (Camunda), earning the 'IMPACT Award' for timely feature delivery and code fixes
- Pioneered comprehensive training programs for 100+ team leads, boosting tool adoption and usage across the organization by 20%
- Provided expert mentorship to 15+ junior developers, enhancing their skills in writing testable code in React and NodeJs, which resulted in a 25% increase in test coverage. Led the design and development of the of a real-time pair trading Angular app, resulting in reduced CPU Usage by 10%, Memory Footprint by 62%, App Load Time by 23% (*Video*)
- Transformed User Experience by incorporating D3, Three.js and Highcharts based components to the app, enhancing functionality therby resulting in 10% increase in user interaction rate