Dhruv Parthasarathy

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Summary: 4+ years of experience in Software Engineering

EDUCATION

Master of Science in Software Engineering Systems   **Expected Aug 2024**

Northeastern University, Boston, MA

Data Structures & Algorithms, Cloud Computing (GCP, AWS), Big Data Indexing, Web Design, Object Oriented Programming

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), successfully guiding students through the development of AI automation pipelines using open-source LLM Frameworks.
- 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
- Contributed to the development of a React-based CPG product launch simulation app called Real Games, supplying valuable insights to stakeholders through interactive maps (Mapbox) and visual representation

ACADEMIC PROJECTS

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

- Cloud Native Stateless RESTful API service that follows the 12-Factor App standard utilizing Packer for image building and fully integrated CI/CD pipelines that perform Build, Unit Test, Integration Test and deployment on Google Cloud Platform
- Terraform to manage 20+ resources: VPCs, Firewalls, DNS, Private Service Peering and OPS Agent for monitoring and Logging

Big Data Indexing and Search [*Postman, REST API, Elastic Search, Graph QL, OAuth 2.0, Redis*] (*GitHub*)

- Developed a RESTful service using NodeJS, incorporating Json Schema for parsing and validating data, and utilized Elastic Search and Redis for enhanced search capabilities and efficient caching. Engineered a robust API architecture facilitating a secure (OAuth2.0) and efficient API management and routing