Bhargavi Rengarajan

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EXPERIENCE

Mr. Cooper (Rocket Mortgage)
Rejoined as Full Stack Developer immediately after graduating from Master's.

Software Engineer — Dallas, TX (Remote) *Mar 2025 – Present*

- Optimized a **Java** service with Redis caching to reduce ~10K/day mortgage-rate API requests, minimizing redundant traffic.
- Enhanced **CI/CD** in Jenkins and added New Relic alerts for scheduled-job services, reducing debugging time from 15 minutes to 2 minutes.
- Architected reusable **Next**.js templates with **Node.js and GCP**-hosted configuration, reducing build latency by 80%.
- Utilized **Generative AI** assistance to create **React** Testing Library test suites, increasing regression coverage by 50%.
- Standardized UI patterns by integrating a shared React component library across 4 applications using Context API.

Software Engineer II — Chennai, India *Apr 2022 – Sep 2023*

- Automated marketing banner publishing using Kafka-driven workflows with Node.js/Webpack middleware and Azure Pipelines, clearing a 200-ticket backlog.
- Collaborated on developing an Elasticsearch indexing pipeline for mortgage documents using Node.js and Kafka, reducing search latency by 70%.
- Refactored legacy Dockerfiles and rolled out multi-stage builds, reducing image size by 40% and improving build turnaround.
- Reduced bundle size by 15% by enabling **tree shaking** for a shared **React** component library supporting SSR.
- Designed **normalized SQL schemas** utilizing foreign keys reducing data redundancy for internal application.
- Optimized dynamic filtering architecture utilizing **GraphQL** aggregations reducing interface latency increasing user interaction 25%.

Software Engineer I — Chennai, India *Jul 2020 – Mar 2022*

- Revamped 100+ web pages to meet **WCAG and WAI-ARIA** accessibility standards.
- Engineered shared **TypeScript** client library standardizing response handling for 10+ endpoints improving developer velocity
- Optimized **Spring Boot REST APIs and MongoDB aggregations** for an internal dashboard, improving React data retrieval latency by 15% for 9K+ users.
- Increased test coverage across 100+ React components using **Jest/Cypress/RTL,** reducing regression bugs by 30%.
- Built a Node.js/Express reverse proxy mirroring Nginx on Windows/Unix, eliminating Docker dependency for local runs.

PROJECTS

AI Git Commit Tool | Open Source | Node.js, Ollama, Docker, TypeScript

- Built an on-device GenAI Git subcommand using Node.js and Ollama that leverages an LLM to generate commit messages from code changes, enabling offline use and achieving a 168× smaller footprint with 381 downloads.
  https://www.npmjs.com/package/git-commit-at

Distributed Cloud Logging | Golang, Kubernetes, BlockChain

● Developed a serverless, tamper-resistant cloud logging system using Golang services deployed on Kubernetes, enabling real-time log capture and reducing debugging time by 60%. GitHub: https://github.com/bhargavirengarajan21/cloud-logging

Air Pollution Prediction | Research Project | Python, Flask, XGBoost

● Developed a full-stack Machine Learning application utilizing Flask and Python for PM10 prediction system using XGBoost, achieving 95% cross-validated accuracy.
https://github.com/bhargavirengarajan21/airpollution

EDUCATION

MS in Computer Engineering, University of California, Riverside October 2023 – March 2025
BE in Computer Science and Engineering, Anna University August 2016 – April 2020

ACHIEVEMENTS

- Awarded as **"Challenger - Q4"** recipient for outstanding innovation and problem-solving contributions.
- Mentored 5+ interns and onboarded new hires via KT sessions; reviewed PRs and reinforced testing and performance standards.
- Published IEEE conference paper "Assessment Of Spatial Hazard And Impact Of PM10 Using Machine Learning" presenting comparative modeling results and deployed system architecture for reproducible evaluations.

SKILLS

Languages: Java, JavaScript, TypeScript, C++, HTML5, CSS
Frontend: React, Next.js, SCSS, Webpack, babel, AJAX, JQuery, Webvitals, TailwindCSS, MaterialUI, VueJS, Redux, ReactHooks, ContextAPI
Backend: Node.js, Ruby on Rails, REST, GraphQL, Express, SQL (PostgreSQL), Redis, MongoDB
Version Control & Cloud/Infra: GitHub, GCP, AWS, Azure, Docker, Kubernetes, CI/CD, GitHub Actions, Kafka
Testing: Jest, React Testing Library, Cypress, Enzyme, Mocha, Selenium
CS Fundamentals: Data Structures & Algorithms,Microservices**,** Modern Web Technology, Server Side Rendering, Static Site Generation, Distributed System, System Design, Agile software development, Object-Oriented Design