Atreya Bain

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Overview

Software Engineer experienced in building secure and scalable cloud-native systems. Adept at improving reliability and usability through metrics-driven system design and cross-team collaboration.

Education

University College London, M.S. Software Systems Engineering   2024 – Present
- Modules: Software Development, Requirements Engineering & Software Architecture, Computer Security
- Post Graduate Teaching Assistant: Compilers – assisted with grading and feedback on coursework.

R. V. College of Engineering, B.E. Computer Science & Engineering (GPA 9.07/10)   2018 – 2022
- Relevant modules: Data Structures, Algorithms, Object-Oriented Programming, Big Data Analysis, Compilers

Experience

Software Engineer, Cisco Systems – Bengaluru, IN   Aug 2022 – Sep 2024
- Developed and enhanced full-stack application features for Cisco IoT Control Center (IoTCC) using Spring APIs and React/ExtJS UI pages, simplifying login and policy management for clients.
- Built APIs and observability integrations for a Spring Boot-based OAuth 2.1 Authorization Server microservice deployed on Kubernetes clusters, enabling secure API access for IoTCC clients.
- Led the design and implementation of a CAPTCHA solution to curb bot activity in multi-environment deployments.
- Optimised and automated the synchronisation of application secrets and SSL Certificates by leveraging Jenkins pipelines, reducing release deployment times by ~25%.
- Collaborated across cross-functional teams to centralise 200+ application secrets used in IoTCC applications in 20+ environments into a centralised Vault instance, reducing the need for emergency patch releases by ~25%.

Software Engineering Intern, Cisco Systems – Bengaluru, IN   Feb 2022 – Jul 2022
- Developed and deployed a solution for managing and externalising SSL certificates for Cisco IoTCC by extending Spring Cloud Config Servers, reducing the creation of emergency releases by ~30%.
- Designed git pre-commit hooks to validate and tag SSL certificates with team ownership, which improved traceability and cut verification times by ~75%.

Software Engineering Intern, Lexis-Nexis Risk Solutions – Atlanta, US (Remote)   May 2021 – Aug 2021
- Extended HSQL (HPCC Structured Query Language) and its new Typescript-based compiler by adding BigQuery-style procedures and typed variables to facilitate users in reusing existing ECL-based or HSQL logic.
- Added full support for the HPCC Visualizations library in HSQL, enabling users to generate rich visualisations.
- Awarded the Community Choice Award in the HPCC Systems Poster Competition 2021.

Backend Development Intern, Revagram – Bengaluru, IN   Sep 2019 – Nov 2019
- Built and tested RESTful APIs for managing Revagram's dance tutorial platform using Express.js and MongoDB.

Projects

IEEE RVCE Student Chapter Website - github.com/IEEE-RVCE   Jul 2020 – Dec 2022
- Drove Back-end team efforts in developing the IEEE RVCE Student chapter website, which won 2 awards in the IEEE Student Branch Website Contest in 2021 - Winner at the Global Level and Runner-up at the Asia-Pacific level.
- Held early stakeholder discussions to align on needs, resulting in a $6\times$ reduction in projected operational costs.
- Led the web team in 2021, driving CI/CD adoption and design reviews to reduce iteration times by 20%.
- Technologies: Express.js, PostgreSQL, Docker, React, Github Actions, Github Pages, Oracle Cloud.

HSQL - HPCC Structured Query Language - github.com/hpcc-systems/hsql   Jan 2020 – Jul 2020
- Designed HSQL – a language offering a familiar SQL-like interface for easy data analysis in HPCC Systems.
- Created a web-based compiler with an ANTLR-based frontend that was integrated into ECL Cloud IDE and a VSCode extension for supporting development with HSQL.

Skills

Programming Languages: Java, Typescript, JavaScript, Python, C++, C
Frameworks: Spring Boot, Spring Cloud, React, Next.JS, Sencha EXT.js, HTML5
Databases: PostgreSQL, Oracle, Redis, MongoDB
Technologies: Docker, Kubernetes, Hashicorp Vault, Grafana, Prometheus, AWS, git, ANTLR, Kestrel