

Atreya Bain

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Overview

Software Engineer with 2+ years' experience building secure, scalable systems in distributed, cloud-native environments. Proven impact on security, automation, and reliability through system design and cross-team collaborations.

Education

- University College London**, M.S. Software Systems Engineering 2024 – Present
- Modules: Software Development, Requirements Engineering & Software Architecture, Computer Security
- 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 improved application security features for Cisco IoT Control Center (IoTCC), including SAML-based Single Sign-On and user security policies, enhancing login and policy management experience.
 - Spearheaded the extraction and centralisation of application secrets used by IoTCC applications in 20+ lab and production environments into a centralised Vault instance, creating a single source of truth for application secrets and reducing emergency dot releases by ~25%.
 - Built prototypes and contributed to APIs and monitoring for an OAuth 2.1 Authorization Server microservice deployed on Kubernetes clusters, enabling secure API access for IoTCC clients.
 - Optimised and automated the synchronisation of application secrets and SSL Certificates using Jenkins pipelines, reducing release deployment times by ~25%.
 - Led design and implementation of a CAPTCHA solution to curb bot activity in multi-environment deployments.
- Software Engineering Intern**, Cisco Systems – Bengaluru, IN Feb 2022 – Jul 2022
- Developed a solution in collaboration with the team for managing and externalising SSL certificates for Cisco IoTCC by extending Spring Cloud Config Servers, reducing creation of emergency releases by ~30%.
 - Designed git precommit 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 – Bengaluru, IN (Remote) May 2021 – Aug 2021
- Extended HSQL (HPCC Structured query language) by adding BigQuery-style procedures, strongly-typed variables, and use of external ECL libraries to enable users to reuse existing ECL-based or HSQL logic.
 - Added full support for using the HPCC Visualizations library, enabling users to generate rich, in-query visualisations from structured data.
 - 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 learning materials using Express.js and MongoDB.

Projects

- IEEE RVCE Student Chapter Website** - github.com/IEEE-RVCE Jul 2020 – Dec 2022
- Led the Back-end team for developing the IEEE RVCE Student chapter website, receiving 2 awards in the IEEE Student Branch Website Contest in 2021 - Winner at the Global Level and Runner up at R10 level.
 - Led the web team in 2021, championing CI/CD 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/hsq Jan 2020 – Jul 2020
- Designed HSQL – a language enabling a familiar SQL-like interface for data analysis in HPCC Systems.
 - Created a compiler with an ANTLR-based frontend, emitting ECL code and a VSCode extension for supporting development in HPCC Systems clusters using 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