

# Atreya Bain

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## Overview

Passionate about building secure, scalable solutions with a keen eye for detail and usability. Software Engineer with experience in secure distributed systems, automation, and compilers.

## Education

**University College London**, M.S. — Software Systems Engineering 2024 – Present

- Relevant modules: Requirements Engineering and Software Architecture, Computer Security, Malware

**R. V. College of Engineering**, B.E. — Computer Science & Engineering 2018 – 2022

- GPA: 9.07/10

## Experience

**Postgraduate Teaching Assistant**, University College London – London, UK Jan 2025 – Present

- Grading for the Compilers module.
- Provided feedback to students on courseworks.

**Software Engineer**, Cisco Systems – Bengaluru, IN Aug 2022 – Sep 2024

- Developed application security features for Cisco IOT Control Center (IoTCC), such as Single Sign On support using SAML and user security policies.
- Spearheaded the extraction and centralization of application secrets used by IoTCC applications in 20+ lab and production environments into centralized Vault, reducing emergency dot releases by ~40%.
- Built POCs and contributed to APIs and monitoring for an OAuth 2.1 microservice deployed on K8S clusters.
- Optimized and automated the synchronization of application secrets and SSL Certificates using Jenkins pipelines, reducing release deployment times by ~25%.
- Deployed Spring Cloud Config Servers on 8+ on-prem and newly created cloud (AWS) environments.
- Led design and implementation of a CAPTCHA solution across shared environments to mitigate bot activity in multi-environment deployments.

**Software Engineering Intern**, Cisco Systems – Bengaluru, IN Feb 2022 – Jul 2022

- Developed a solution in collaboration with team for managing and externalizing SSL certificates for Cisco IoTCC, reducing creation of emergency releases by ~40%.
- Implemented git hooks to collect ownership metadata of SSL Certificates to trace team ownership ~75% faster.

**Software Engineering Intern**, Lexis-Nexis Risk Solutions – Bengaluru, IN (Remote) May 2021 – Aug 2021

- Extended HSQL to introduce Big-Query like procedures and strongly-typed variables.
- Added syntax supporting 15+ graphing methods, user-created machine learning models and external ECL code.
- Awarded the Community Choice Award in HPCC Systems Poster Competition 2021.

**Backend Development Intern**, Revagram – Bengaluru, IN Sep 2019 – Nov 2019

- Developed and tested RESTful APIs for learning materials management.

## 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, Rust, PHP

**Frameworks:** Spring Boot, Spring Cloud, React, Next.JS, Sencha EXT.js, HTML5

**Databases:** PostgreSQL, Oracle DB, Redis, MongoDB, MySQL

**Technologies:** Docker, Kubernetes, Hashicorp Vault, Oracle Cloud, AWS, git, ANTLR, Kestrel (MQ), Grafana