

# Atreya Bain

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## Education

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- University College London**, M.S. - Software Systems Engineering Sep 2024 ~ Present
- Relevant coursework: Requirements Engineering and Software Architecture, Computer Security
- R. V. College of Engineering**, B.Tech - Computer Science & Engineering Aug 2018 - Jul 2022
- GPA: 9.07/10

## Experience

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- Software Engineer**, Cisco Systems India Pvt. Ltd. – Bangalore, IN Aug 2022 - Sep 2024
- Worked with team on various aspects of application security for Cisco IOT Control Center (IoTCC), such Single Sign On support and user security policies.
  - Designed a picture verification solution for login to reduce abuse of automation by users.
  - Created Jenkins pipelines to manage and automate synchronization of the secrets and SSL Certificates across various IoTCC deployment environments, decreasing release deployment times by ~25%.
  - Collaborated with multiple teams on extraction and centralization of application secrets used in IoTCC applications and their centralization in over 20+ lab and production environments.
- Software Engineering Intern**, Cisco Systems India Pvt. Ltd. – Bangalore, IN Feb - Jul, 2022
- Worked with team in developing a solution for managing and externalizing SSL certificates for Cisco IoTCC, reducing creation of emergency releases by ~40%.
  - Implemented githooks to automatically collect impact ownership metadata of SSL Certificates to allow for quicker action in case of certificate expiry.
- Software Engineering Intern**, Lexis-Nexis Risk Solutions – Atlanta, US (Remote) May - Aug, 2021
- Extended HSQL to introduce Big-Query like procedures and strongly-typed variables.
  - Added HSQL syntax to support graphing methods and machine learning models outside the standard library.
  - Awarded the Community Choice Award in HPCC Systems Poster Competition 2021.
- Backend Development Intern**, Revagram – Bengaluru, IN Sep - Nov, 2019
- Designed RESTful APIs using MongoDB and Express.JS.

## Projects

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- IEEE RVCE Student Chapter Website** - github.com/IEEE-RVCE Jul 2020 - Dec 2022
- Developed a website with team for the IEEE RVCE Student chapter with CI/CD practices.
  - Led the web development team in the second year, reducing iteration times for design.
  - Website was a winner in IEEE Global Student Branch Website Contest 2021 and Second Runner Up in the IEEE R10 level Student Branch Website Contest 2021.
  - Technology Used: ExpressJS, PostgreSQL, Docker, React, Github Actions, Github Pages, Oracle Cloud.
- HSQL - HPCC Structured Query Language** - github.com/hpcc-systems/hsq Jan - Jul, 2020
- Designed a BigQuery inspired language for querying and data analysis using HPCC Systems (Big Data Processing platform) for data scientists new to the platform.
  - Created a compiler and IDE extension that converts HSQL to ECL for execution in HPCC Systems clusters.
  - Tools Used: ANTLR, HPCC Systems, MochaJS, Webpack.
- Projectile Tracking using Filters** Oct - Dec 2020
- Implemented Kalman and Particle Filters in Java and C++ to track moving projectiles from sensor inputs.
  - Worked with team to design UI to plot sensor input and compare predicted trajectories.
  - Compared performance of Kalman, IMM and Particle Filter implementations with various motion models and determined usable parameters and models for projectile tracking.

## Skills

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**Programming Languages:** Java, Typescript, JavaScript, Python, C, PHP  
**Frameworks:** Spring Boot, Spring Cloud, React, Next.JS, HTML5  
**Databases:** MySQL, PostgreSQL, Redis, MongoDB  
**Technologies:** Docker, OCI, AWS, git, ANTLR, Kubernetes, FluxCD  
**General:** Web Development, Distributed Systems, Compiler Design, Data Structures