

SAIHARSHITH KARUNEEGAR RAMESH

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EDUCATION

MASTER OF COMPUTER SCIENCE

December 2023

UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN | GPA : 4.0/4.0

Illinois, USA

Graduate Research Assistant @ NCSA | Graduate Teaching Assistant @ CS 222

BACHELOR OF ENGINEERING IN COMPUTER SCIENCE

May 2021

ANNA UNIVERSITY | GPA : 9.54/10.0

Chennai, India

Vice President @ Know-I Research Club | Joint Secretary @ The Association of Computer Engineers

TECHNICAL SKILLS

Languages

C++ | Java | JavaScript | TypeScript | SQL | Python | HTML | CSS

Technologies / Frameworks

Spring Boot | Node.js | Express | MongoDB | MySQL | React.js | Git | Perforce | AWS | Docker

EXPERIENCE

SOFTWARE ENGINEER II @ CADENCE DESIGN SYSTEMS

Feb 2024 - Present

C++ | Perforce | Data Structures and Algorithms

San Jose, USA

- Developed an algorithm to optimize customer designs, **reducing the number of SLR crossings** by over 90%, significantly **improving Compile and Place & Route (P&R)** timings.
- Collaborated on optimizing the **step count of the designs** by strategically grouping and increasing the frequencies of fast and slow clock domains. This improvement led to a **reduction** in step count ranging from **10% to 80%** across various designs.
- Integrated Static Timing Analysis (STA) API libraries to calculate the net and cell delays of the designs, resulting in a **10-15% reduction in compile time**.

SOFTWARE ENGINEER @ FRESHWORKS

Feb 2021 – April 2022

Java | MySQL | Spring Boot | Apache Kafka | AWS | Redis | REST APIs

Chennai, India

- Spearheaded the transition from a monolithic architecture to a **microservices**-based system for Freshworks CRM, **reducing network traffic** overload by 40% and enhancing system performance and reliability.
- Led an initiative to **improve email deliverability**, cutting the spam score by 50% and enhancing the sign-up process, leading to a better user experience.
- Streamlined sign-up request processing, **reducing processing time** by 30%, and implemented an **asynchronous** sign-up callback process to boost responsiveness and resource utilization.
- Increased email deliverability metrics by 40% through the introduction of **de-duplication algorithms**, leveraging **Redis Cache** for optimal data management.
- Collaborated to deliver a **new landing page feature** for the Freshsales product within a tight 2-day deadline, meeting customer requirements efficiently.
- Improved build efficiency by upgrading the **Gradle** build tool, reducing build time from **13 to 8 minutes**.

MACHINE LEARNING PROJECT TRAINEE @ CADENCE DESIGN SYSTEMS

May 2019 - June 2019

Python | MySQL

Bengaluru, India

- Collaborated with an agile team to refine machine learning algorithms, emphasizing advanced data preprocessing like normalization and feature engineering, enhancing model robustness.
- Employed three ensemble learning methodologies, integrating predictions from eight models, boosting predictive accuracy by 23%.

ACADEMIC PROJECTS

GITHUB OPEN SOURCE CONTRIBUTIONS

Java | Git

- Detected Bugs: 30 | Resolved Bugs: 28 | Acceptance Rate: 100%
- Notable Repositories: [google/guice](#), [apache/commons-lang](#), [manifold-systems/manifold](#), [stleary/JSON-java](#)

TAG-ME-IN

React.js | Node.js | MySQL

- Developed a **Carpooling application** for University of Illinois students, allowing them to find and join rides with similar destinations.
- [Tag-Me-In Github Repository](#)

APPLICATION OF RANDOM FORESTS FOR AIR QUALITY ESTIMATION IN INDIA BY ADOPTING TERRAIN FEATURES

Python | Pandas

- Built a regression model to predict the **Air Quality Index (AQI)** of Indian cities using terrain features, achieving 81% accuracy.
- [Published on IEEE explore](#)