

# SAHANA PATTE KESHAVA

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## EDUCATION

### University of Massachusetts Amherst

*Masters of Science in Computer Science*

Feb 2023 - Dec 2024

GPA: 3.8

**Coursework :** ML,RL,NLP, Systems for Data Science,Statistics, Computer Networks & Security

### RV College of Engineering

*Bachelor of Technology in Computer Science and Engineering*

Aug 2016 -Jul 2020

GPA: 8.38

**Coursework :** Data Structures, Algorithms, OOP, Operating Systems, DBMS, Web Development

**Publication:** "Producer-Consumer Process Synchronization in Multicore Systems and Energy Profile" IRJET

## TECHNICAL SKILLS

**Languages:** Python, C, C++, C#, Java, R, HTML, CSS, JavaScript, MySQL, Oracle SQL, MongoDB

**Technologies:** Azure, AWS, GCP, Airflow, Kafka, Redis, Postman, REST APIs, Spring Boot, Git, Jenkins, Kubernetes

**Machine Learning:** Pandas, NumPy, Matplotlib, PySpark, NLTK, Tableau, Power BI

## EXPERIENCE

### Qualcomm

Feb 2024- Present

#### Software Engineer

San diego, USA

- Collaborated with cross-functional teams to debug issues across multiple APIs, implemented robust fixes, and improved efficiency by eliminating redundant operations.
- Delivered a cross-layer API across firmware, kernel, and userspace to provide Global SynX setup information for customer requirements.
- Created end-to-end SynX configuration documentation for internal teams and customers, enhancing usability and accelerating adoption among OEM.

### Qualcomm

Jun 2020- Dec 2022

#### Software Engineer

Bangalore, India

- Enhanced system responsiveness and minimized latency by 28% by integrating asynchronous APIs with timeout functionality within Qualcomm's Global SynX framework, streamlining processes in a heterogeneous computing environment.
- Developed a test framework using C++ and SQL scripts to evaluate APIs for cross-core synchronization. Automated data collection for performance metrics, reducing debugging time by 30+ hours per month. Conducted performance analysis using custom Python scripts to benchmark scenarios with and without Global SynX.
- Designed cross-core synchronization examples with 5% performance boost using Hexagon SDK and Java, providing OEMs insights into Qualcomm's DSP tools, enhancing integration workflows and hardware-software compatibility.
- Accelerated source code deployment by 30% through the combined use of PW and Axiom in target testing.
- Migrated the build system from Android.mk to Android.bp, utilizing shell scripts and build automation tools to achieve a 30% reduction in build times while maintaining build consistency with Android source updates.

### Qualcomm

Jan 2020- Jun 2020

#### Software Intern

Bangalore, India

- Deployed a test framework for CPU synchronization in C++, achieving a 50% reduction in test case integration time through efficient use of threading and synchronization techniques.
- Published a paper on the findings and conducted performance analysis to measure the effectiveness of Qualcomm's global synchronization (SynX), demonstrating an 8% improvement in performance.

## PROJECTS

### University Thrift Application | MongoDB, AWS EC2, AWS S3, Docker, Fast API, JavaScript

Oct 2024 - Nov 2024

- Engineered a university buy-sell app with an intuitive frontend using HTML, CSS, JavaScript, and Cypress for testing, alongside Python Fast APIs with Twilio for authentication and role-based access. Architected AWS infrastructure with EC2 and S3, integrating Swagger and Postman for streamlined API documentation and testing.

### Real-Time Data Streaming Pipeline | Python, Airflow, Kafka, Spark, Cassandra, Docker

Jan 2024 - Feb 2024

- Developed a real-time data streaming pipeline using Kafka for ingestion, Spark for processing, and Cassandra for scalable storage, containerized with Docker for environment consistency. Automated ETL workflows with Airflow, ensuring fault-tolerant, scalable, and high-performance data processing for real-time insights.

### Reinforcement Learning Project | Python, OpenAI Gym

Nov 2023 - Dec 2023

- Developed and optimized One-Step Actor-Critic and n-step SARSA to train agents on RL benchmark problems Cartpole, Acrobot, and 687-GridWorld. Implemented Fourier feature construction and epsilon-soft action selection.

### Transliteration Deep Learning Model | Python, Pytorch, NLTK

Apr 2023 - May 2023

- Unified an ensemble with weighted average of Conv Seq2Seq and Transformer model for transliteration from Indic languages to English achieving 70% accuracy demonstrating effective cross-architecture integration and performance.