SAHANA PATTE KESHAVA

spattekeshav@umass.edu | linkedin.com/in/sahana-p-k-acharya/ | **github.com/sahanapk6** | **(413)-275-9311**

EDUCATION

University of Massachusetts Amherst, United States
Master of Science in Computer Science | GPA: 3.78/4 *Feb 2022- Dec 2024*
Coursework - Machine Learning, Systems for Data Science, NLP, Reinforcement Learning, Computer Network & Security, Business Intelligence and Analytics, Optimization in CS, Statistics

RV College of Engineering Bangalore, India
Bachelor of Engineering in Computer Science | GPA: 8.38/10 *Aug 2016 - Jul 2020*
Coursework - Data Structures & Algorithms, Object Oriented Programming, Operating Systems, Database Design

PROFESSIONAL EXPERIENCE

Qualcomm Bangalore, India
Software Engineer *Jun 2020- Dec 2022*

- Enhanced system responsiveness and minimized latency by 28% by integration of asynchronous API with timeout functionality within Qualcomm's Global SynX synchronization mechanism for heterogeneous computing environment.
- Implemented a test framework to assess APIs that support cross-core synchronization thereby reducing debugging by 30+ hours on average per month. Analyzed performance differences with and without Qualcomm-built global synchronization.
- Demonstrated a 5% performance improvement with Qualcomm's global SynX by designing a cross-core based example in Hexagon SDK, a toolkit for Original Equipment Manufacturers seeking insights into Qualcomm's DSP tools.
- Achieved 30% acceleration in deployment of the source code by combined use of PW and axiom in target testing.
- Migrated Android.mk build system to Android.bp in alignment with Android source code updates; resulting in a 30% reduction in build time and enhanced code maintainability.

Software Intern *Jan 2020- Jun 2020*

- Created and deployed a test framework for CPU synchronization, achieving a 50% reduction in test case integration time.
- Published a paper on the findings and conducted performance analysis to measure the effectiveness of Qualcomm's global synchronization(SynX) which showed 8% improvement.

PROJECTS

- **Reinforcement Learning Project :**Developed and optimised One-Step Actor-Critic and n-step SARSA for RL benchmark problems CartPole, Acrobot, and 687-GridWorld. *Tech: Python*
- **Machine Learning Capstone Project:** Performed comparative study and classification on datasets that dealt with biological and chemical data using KNN, Decision tree, Random Forest, Naive bayes, Neural Networks. *Tech: Python*
- **Transliteration Model:** Unified an ensemble with weighted average of Conv Seq2Seq and Transformer model for transliteration from Indic languages to English achieving 70% accuracy. *Tech:Python , Pytorch*
- **Movie Recommendation System:** Implemented a Collaborative Filtering algorithm using ALS on MovieLens dataset, and assessed system runtime performance by adjusting configuration parameters. *Tech:PySpark*
- **Smart Mozart**: Engineered a cutting-edge music player a predictive model that harnessed the power of Machine Learning to analyze users' song preferences aligned with their heartbeat patterns *Tech: Python, Arduino, IOT*
- **Facial Emotion Detection:** Implemented an application that takes an image of a person and recognizes the emotional state of the person using the ML technique CNN. *Tech: Python*
- **Depression Detection Using Tweets:** Applied natural language processing on Twitter feeds for conducting emotion analysis focusing on depression and classified tweets using Naive-Bayes classifier. *Tech: Python*
- **Automated Tollbooth:** Used Optical Character Recognition (OCR) technique to automate the tollbooth prototype by reading a number plate and deducting the amount from a user account stored in the database. *Tech: C++, Raspberry Pi*

TECHNICAL SKILLS

- Python, C++, C, C#, Java, HTML, CSS, Javascript,React, NodeJS,MySQL,MongoDB, OS Concepts, Design Patterns, Data Analysis, Azure, AWS,Tableau, Docker,Agile,RESTAPI
- Git, JIRA, MATLAB, Pandas, NumPy, Matplotlib, Tensorflow, PySpark, PyTorch, Apache Spark, Unity, Excel

PUBLICATION

"Producer-Consumer Process Synchronization in multicore system and Energy Profile" in International Research Journal of Engineering and Technology (IRJET)Volume 7, Issue 4, April 2020 S.NO: 991