

# SATHYANARAYANA R K

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## EDUCATION

### PES UNIVERSITY EC CAMPUS

BTECH. - Computer Science Engineering

CGPA: 8.01

2020 -2024

Received **Distinction Award** for Semester 4,5,6

Relevant Coursework:

- Data structures and Algorithms
- MERN stack web development
- Data Analytics and Machine Intelligence
- Big Data (Hadoop, Kafka and Spark)
- Cloud Computing (AWS, Docker and Kubernetes)
- Database Technologies (MySQL, SQL Server)

### CHRIST JUNIOR COLLEGE

PU (Class 12)

Score: 92.67%

2018-2020

### BES SCHOOL

SSLC (Class 10)

Score: 95.83%

2018

## EXPERIENCE

### Engineering Intern: EventHQ Inc

Jan - Feb 2023

- Designed and developed a scalable Car Selling Management System using NestJS, TypeORM, and PostgreSQL.
- Implemented real-time market price estimation for listed cars, optimizing code through interface-based object manipulation over DTOs and made use of Microservice level Architecture for File management.
- Implemented a validation helper to verify API request body properties, intercepting errors before reaching route handlers
- Leveraged Query Builders for efficient database operations, and executed database migrations for seamless schema management.

## PROJECTS

### SENTIMENT ANALYSIS using AI, FastAPI, MySQL, Docker, Kubernetes

May - June 2023

- Created a sentiment analysis model (LSTM) achieving **94.36%** accuracy using TensorFlow with IMDB reviews.
- Implemented a FastAPI web service with MySQL logging, offering an API endpoint for user interaction.
- Containerized both AI model and web service via Docker for seamless deployment and scalability.
- Orchestrated Kubernetes deployment with 2 pods using a crafted configuration for efficient container management.
- Integrated a user-friendly front-end interface to enhance model interaction.

### REAL TIME CROP PRICE ANALYSIS using Apache Kafka, Spark and MongoDB

April - May 2023

- Conducted comprehensive analysis of crop prices across three market levels for the benefit of farmers.
- Achieved a 57% faster rural crop price analysis through optimized real-time data aggregation, highlighting its efficiency over batch processing and utilizing diverse streaming window types.

### TUTORIAL MASTER (MyGuru) using AWS EC2 & RDS, Nginx, GitHub Actions

April - May 2023

- Deployed web app on AWS EC2, configured Nginx as the web server and utilized AWS RDS for database storage.
- Implemented GitHub Actions workflow for automated deployment, achieving updates 50% faster than manual methods.
- Achieved efficient application hosting with AWS services and streamlined development processes.

### KAFKA CLONE implementation using Python

Mar- April 2022

- Engineered automated broker election within a pub-sub model, utilizing resilient fault tolerance mechanisms through socket programming and multithreading for concurrent communication.
- Enhanced system reliability and uptime through effective partition management, ensuring smooth data flow and reduced data transfer latency.

### Ongoing Projects:

#### MI/AI BASED 5G RESOURCE ALLOCATION WITH NETWORK SLICING

Aug 2023-Aug 2024

- Developing 5G resource allocation system that optimizes **quality of service** by dynamically assigning resources based on QoS requirements and traffic generation, ensuring efficient network slicing for diverse applications.
- A comprehensive algorithm comparison revealed LSTM's outstanding performance with a **91.1%** accuracy rate, highlighting expertise in data manipulation and algorithm selection.

## SKILLS & INTERESTS

**Technical Skills:** C++, Python, C, React, HTML, CSS, Git, TensorFlow, Hadoop, MySQL, Jenkins, FastAPI, Mongo dB, Spark, Jira, AWS, JavaScript, Docker, Kubernetes, NestJS, Typeorm, Typescript.

**Interests:** Data Analytics, ML/AI, Algorithms, Web development, Data streaming, Big Data and DevOps.