Keshav Saraogi

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EDUCATION

Boston University Master of Science in Computer Science — **Boston, USA**
Temple University Bachelor of Science in Computer Science — **Philadelphia, USA**

Key Courses: Advance Machine Learning, Big Data Analytics, Software Development, Data Structures and Algorithms, Operating System

TECHNICAL SKILLS

Software Tools: Docker, Kubernetes, AWS Sagemaker, AWS S3, Google Cloud, TensorFlow, Firebase, Tomcat, Apache, Git, GitHub

Programming Languages: HTML, CSS, JavaScript, TypeScript, Python, R, Tableau, MySQL, MongoDB, Postgres, C, C++, PHP

Frameworks: React, Redux, NextJS, NumPy, Pandas, Keras, PyTorch, Matplotlib, PyTest, Axios, Express, CORS, GraphQL, AsyncIO

PROFESSIONAL EXPERIENCE

Software Development Intern | Patton Labs — **Jan 2023 – April 2023**

- Implemented a scalable **microservice architecture** in a team of 5 using **Docker**, **Kubernetes**, **Linux,** and **TypeScript** and **React.**
- Utilized **Docker** and **Kubernetes** efficiently to establish **CI/CD** pipeline and improved performance by 20% by **automation testing**, building, deployment of various components; maintained QA by writing unit and A/B tests to ensure good code quality.
- Engineered **RESTful APIs** and improved **microservice** intercommunication by 17% using **RabbitMQ** facilitate exchange data between various microservice components; wrote automation scripts in **Python** and **Tableau** to perform data analytics operations.
- Collaborated and Optimized multiple database schemas to improve backend performance by 22% and maintain data integrity by writing complex **SQL** and **NoSQL** queries using new technologies frameworks during the **AGILE** development process.

Undergraduate Teaching Assistant | Temple University — **Aug 2021 – Dec 2021**

- Demonstrated effective communication skills by conducting lectures, organizing assignments for 30+ students in **C** and **Linux**.
- Collaborated with 4 other Teaching Assistants to organize study sessions and provide feedback from in-class assignments and tests.
- Exhibited teamwork and problem-solving skills by organizing study-sessions, improving grades by 20% over the entire semester.

PROJECTS

Object Detection with AWS

- Optimized a Machine Learning Model by reducing the model training time by 30% with **AWS Sagemaker**, **Python** and **MongoDB**
- Leveraged data-transformation tools resulting in increasing data processing speed by 40% with **AWS S3** and **AWS Sagemaker**.
- Improved user-engagement by 35% by allowing users to submit data to a deployed web app using **React, Next.JS** and **MongoDB.**
- Automated workflows through **AWS Step Functions**, **AWS Lambda Functions** and **Python** reducing manual intervention by 50%.

Chat Web App

- Deployed and launched a real-time chat web application using **Postgres**, **React** and **TypeScript** allowing seamless communication.
- Achieved data synchronization latency less than 100ms between clients using **Web Sockets** with **Postgres** and **TypeScript.**
- Improved user engagement with more than 23% by designing responsive and interactive interfaces with **React** and **Redux**.
- Optimized backend performance by 20% by writing complex **SQL** Queries with **Postgres**, and **REST APIs** with **TypeScript**.

Machine Learning Polygraph Kit

- Led a team of 6 to design and implement a Machine Learning Polygraph Kit by collecting over 200K points of data using **Python**, **MySQL** and **TensorFlow**; achieved an 88% accuracy in predicting lies using analytical skills with **MATLAB** and **R**.
- Optimized Machine Learning Model by 12% with **Python** by cleaning the data and adding parameters while collecting data.
- Utilized **Micro Python APIs** and **C++** to achieve fast data collection from the **Arduino Board** for training, cleaning and analysis.
- Integrated a Full Stack Website to scale more than 1000 users to view their live recordings using **Apache** and **NGINX**, **HTML**, **CSS**, **JavaScript**, **PHP**, and **MySQL**. Designed schemas and wrote complex **SQL** queries to ensure integrity and communication.

Food Recipe Mobile Application

- Created a Food Recipe Mobile Application that generates users their food recipes based on their provided ingredients using Kotlin and ROOM and Material UI Design; used Android SDK to improve the customer experience for user interaction.
- Improved backend performance by 15% after integrating RESTful APIs, complex SQL Queries, and multithreading solutions; increased frontend performance by 17% engineering lazy-loading and improving the allocation of resources within the app.
- Increased user count to 1000 users and improved user-activity on the app by adding multiple UI features such as themes, dark mode; increased users' retention by 35% allowing users to create their personal page with the help of cloud services.