SACHIN RATHOD
Boulder, Colorado

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EDUCATION

Master of Science: **Computer Science**	University of Colorado Boulder, USA	4.00 CGPA	05/2025
B.Tech: **Information Technology**	National Institute of Technology Karnataka, Surathkal	8.45 CGPA	05/2019

SCHOLASTIC ACHIEVEMENTS

Awards	• Secured **second place** in Bagalkot district for Class XII examination	05/2015
	• Received **Best Outgoing Student** award from SC/ST Cell NITK	05/2019
Course Work	Data Structures and Algorithms Software Engineering Database Systems Design and Analysis of Algorithms Data Center Scale Computing Distributed Systems Big Data Architecture Computer Vision Natural Language Processing	
Skills	C, C++, Python, Java, HTML, CSS, JavaScript, TypeScript, Node.Js, SQL, NoSQL, PHP	
Tools and Frameworks	Spring Boot, Pandas, Hadoop, PySpark, GCP, AWS, AEM, Docker, Kubernetes, Jenkins, Redis, MinIO, Firebase, MongoDB, DynamoDB, MySQL, Kafka, RabbitMQ, ZeroMQ, Angular, Ionic, Cordova, Capacitor, GitHub, JIRA	

PROFESSIONAL EXPERIENCE

Institute for Student-AI Teaming, USA **Software Engineer** 09/2023 - Present	• Built mechanism to track user actions on Microsoft makecode editor, store it to **DynamoDB** and provide it to machine learning pipeline to analyse collaboration among users. Deployed service on **AWS ECS**. • Developed **AWS lambda** that gets triggered on DynamoDB write, and generates **AMR graph** from the utterances of the user. • Responsible for architecting and developing various **machine learning** pipelines and services over **AWS cloud**.
Optum Inc, India **Sr. Software Engineer** 11/2022 – 04/2023	• Developed a **Jenkins DevOps** pipeline for automatic code build and deployment on **AEM**. Reduced manual work by up to 80%. • Responsible for creating module that syncs local git with **Adobe Cloud Git** and notifies the user on deployment status via email, save 100% monitoring time. • Built a python tool that compares two websites employing **Opencv-Python** and Imutils packages. Reduced manual work by up to 90%.
SAP Labs, India **Software Engineer** 06/2019 – 11/2022	• Developed **cloud-native applications** for procurement sector. This required a thorough knowledge of domain driven design and cloud architecture design principles. 100% of on-premise applications were migrated to cloud. • Responsible for **user interface**, **database modelling**, implementing Kafka based inter-service **asynchronous messaging architecture** and developing **authorization and security** using Spring Security framework. • Integrated **ESRI ArcGIS** map service to SAP UI5 version of MRS app using APIs. Increased user experience by 50% in visualizing the current position of the service provider, source to destination routes and travel details (considering live traffic).

TECHNICAL PROJECTS

Distributed Video Analyzer (Distributed Systems) 12/2023 – 12/2023 Github link	• Developed a distributed system using the **master-worker architecture**, in which the master node splits video into smaller chunks and distributes them to worker nodes. Each worker node works on assigned chunks for object detection. • Utilized **ZeroMQ** for efficient analysis of video frames, optimizing data transfer and processing capabilities without loss of frames. • Employed **Google Compute Engine** to proficiently deploy and manage master and worker nodes, ensuring scalable and reliable infrastructure for distributed computing tasks.
Music Separation System (Distributed Systems) 11/2023 – 11/2023 Github link	• Created a **Kubernetes** cluster that provides a REST API for automatic music separation service and prepares the different tracks for retrieval. • Used **Redis** as a message broker and **MinIO** for audio file storage. • Deployed services on **Google Kubernetes Engine**.
ZwellStar, Equinox Software Applications LLP 02/2022-05/2023 Playstore link	• Established own startup and registered under **Ministry of Corporate Affairs India**. • Built e-commerce and food delivery system with Ionic, Firebase, Node.js and GCP to gain full-stack development experience. • Gained experience in submitting the app to the **Google Play Store**.

POSITIONS OF RESPONSIBILITY

Lead, Ordering Stream VW GPS – SAP Labs 03/2022 – 11/2022	• Supervising, monitoring, and handling a team of five members. • Responsible for task **estimation, design, and deployment**.