## Jainil Rana



## **EDUCATION**

University of Ottawa

Ottawa, CA

M.Eng.in Computer Engineering, GPA: 3.8/4.0

Aug 2023 – April 2025 Gujarat, IN

B. Tech in Computer Engineering, GPA: 3.7/4.0

Aug 2019 - April 2023

SKILLS

Languages: Python, Java, JavaScript, C++, C, Scala, MATLAB

Frameworks and Technologies: Spring Boot, ReactJS, Node.js, Flask, Maven, HTML/CSS

Databases: MySQL, PostgreSQL, MongoDB, Elasticsearch

Charotar Institute of Science and Technology

Cloud Services: AWS (EC2, S3, Lambda, API Gateway, CloudFormation), Azure (App Services, Blob Storage)

Tools and Concepts: Docker, Git, Linux, Agile Development, Test-Driven Development (TDD), SDLC

WORK EXPERIENCE

JMC Moving

Ottawa, ON

Software Engineer (Internship)

Sep 2024 - Dec 2024

- o Developed an automated job scheduling system using **Java**, **Spring Boot**, and **Azure**, enabling administrators to efficiently assign tasks to employees. The system featured a modular architecture with **RESTful APIs** for seamless integration, real-time email/SMS notifications powered by **Azure Event Grid**, and **Azure Scheduler** for task coordination reducing the employee assignment bottlenecks by almost 70%.
- Designed and implemented a cost estimation PDF generation system that reduced document handling time by **6-seconds** and improved retrieval efficiency by 40% using **Azure Blob Storage** for secure storage and efficient retrieval.
- **Deployed** the system using **Docker** containers to ensure environment consistency and scalability. Resolved deployment challenges such as **container orchestration** issues by optimizing Docker Compose configurations and troubleshooting Azure App Services compatibility with Docker images.

University of Ottawa

Ottawa, ON

Teaching Assistant, SEG 2105 (Software Engineering)

Sep 2024 - Dec 2024

• Mentored students on version control with **Git/GitHub**, mobile app development using **Android Studio**, and object-oriented programming with **Java**, **Spring-Boot** and **Firebase**.

Aarogram Inc.

Vadodara, India

Software Engineer (Full-time, Internship)

Jan 2023 - July 2023

Designed and developed a scalable frontend system (MVP Product) to streamline patient prior authorization, achieving HIPAA compliance and integrating data using EHR and FHIR APIs. Implemented backend automation with AWS Cloud Services (EC2, S3, Lambda) and robotic process automation (RPA), resulting in a 22% increase in user engagement, a 40% improvement in operational efficiency.

## Projects

- VAR: Video Assistant Referee System for Soccer Foul Detection: Developed a foul detection system utilizing MViT, ResNet, and Two-Stream CNN architectures, comparing their performance for spatiotemporal feature extraction. Optimized and customized these models by freezing certain layers, which reduced training time by almost 50%. Utilized multi-view video analysis and the SoccerNet-MVFoul dataset to improve foul classification accuracy. Followed SDLC principles for data preprocessing, model training, and evaluation.
- Data Engineering YouTube Analysis: Implemented a scalable ETL pipeline using AWS Glue, Lambda, and Athena to process large-scale YouTube data. Stored data in a distributed architecture on Amazon S3 and visualized insights with AWS QuickSight. Emphasized modular design for reusability and scalability.
- Prior Auth Predictor: Developed a healthcare AI model using pre-trained models (BERT) and time-series analysis to predict prior authorization requirements. Improved decision-making speed by following Test-Driven Development (TDD) practices and implementing robust classification algorithms.

## AWARDS & ACHIEVEMENTS

- uOttaHack-6 Hackathon: Runners-up, 2024
- Geeks-for-geeks problem of the day: 2nd place (Jan-2024 to April-2024)