

FIRASAT HUSSAIN MOHAMMEDmfrasathussain.github.io/portfolio/ | fmohamm8@ncsu.edu | linkedin.com/in/mohammed-firasat-hussain/**EXPERIENCE****Software Engineer Intern**, AdImpact, Alexandria VA

Jun 2024 - Present

- Developed a full-stack React app with DynamoDB and Snowflake DB to map advertisers for data across 5.8M rows.
- Engineered a Retro Active Tagging system to detect duplicate ads in live TV streams by hashing video frames, reducing manual work by 80% and processing 500k frames daily using WebSocket queuing, TVEye API, React, Python, and Computer Vision, integrated with Snowflake DB and Amazon Redshift.
- Designed and implemented three Redshift tables with 20 attributes each, structuring and ingesting over 6 million rows of data on ad sessions, daily metrics, and content viewership, optimizing schema and data types for efficient storage and retrieval.
- Automated daily data transfer from Snowflake to Google Sheets, enabling real-time calculations and updates on 100,000 rows, and scheduled a Cron job to reduce manual intervention by 90%, ensuring consistent data accuracy.

Graduate Research Assistant, NC State, Software Engineering Lab, Raleigh, NC

Sep 2023 - Mar 2024

- Orchestrated acquisition of a specialized dataset of 1000 records from Stack Exchange Data Explorer, focusing on Android XML/UI posts. Developed Python automation for integrating accepted answers into Android Studio, generating 3000 images.
- Implemented advanced AI models (GPT4, CodeLlama 7b) to generate XML code. Achieved 90% accuracy with a novel hierarchical tree structure comparison technique for XMLs, reducing evaluation time by 75%.

Associate Application Developer, Oracle, Hyderabad, India

Jul 2022 - Aug 2023

- Enhanced Oracle Insurance Policy Administration (OIPA) system efficiency by 45% through the implementation of customized rules palette configurations, optimizing data throughput on key pages and streamlining overall operations.
- Designed and supervised the successful implementation of an end-to-end testing automation pipeline for OIPA, leveraging Java, Jenkins, and Maven to ensure seamless execution and robust performance that covered 85% of the application.
- Streamlined the processes and observed a 30% reduction in testing time. Effecting a 15% increase in test coverage across the application. Ensuring comprehensive evaluation of the application's functionalities and enhancing overall quality assurance.
- Formulated the development of a comprehensive automation framework, leading to a notable 20% reduction in change lead time for the project. This framework facilitated early bug detection and resolution, resulting in enhanced client satisfaction.

PROJECTS**Full Stack Development: Event Management Application**

- Engineered and launched an event management web application powered by the Django framework, attracting 500 users over the course. With integrated REST APIs, the platform facilitated 50 events with event creation and venue booking capabilities.
- Implemented Jenkins for CI/CD pipelines and employed Maven for project management, resulting in a 30% reduction in deployment time and a 40% increase in development efficiency.

Android and iOS App Development: Task Management Application

- Employed Flutter's widget-based architecture to integrate robust task management features to enhance user productivity and organizations. The architecture helped in 25% improvement in-app responsiveness across all supported devices.
- Spearheaded cross-platform mobile app development, achieving 200 active users in the first month and driving 30% user engagement growth through efficient Firebase backend services and real-time data synchronization.

Computer Vision Development: Smart Parking System

- Developed an RFID-based IoT system, integrating camera sensors and actuators, reducing vehicle verification time by 35%.
- Designed and implemented a user-friendly Flutter-based Android app, backed by Firebase for real-time monitoring of parking slot availability. As a prototype for 20 parking spaces, it increased user engagement by 40% with 100 downloads.

TECHNICAL SKILLS**Programming and Development:** Python, Java, JavaScript, React, TypeScript, C, C++, Django, TensorFlow, Flutter, REST APIs**Data Management and Deployment:** SQL, Firebase, Snowflake, Amazon Redshift, DynamoDB, Git, Jenkins, Maven, Docker**Machine Learning and AI:** Prompt Engineering, NLP, Computer Vision, TensorFlow, GPT4, CodeLlama, CodeBERT, LLMs**EDUCATION****North Carolina State University**, Raleigh, NC

Aug 2023 - May 2025

Master of Computer Science

GPA: 3.8/4.0

Coursework: Design and Analysis of Algorithms, Automated Learning and Data Analysis, Generative AI for Software Engineering, Neural Networks, Algorithmic Aspects of Bioinformatics, Software Engineering**Chaitanya Bharathi Institute of Technology**, Hyderabad, India

Jul 2018 - Jun 2022

Bachelor of Engineering in Electronics and Communication Engineering

GPA: 8.67/10

Coursework: Programming for problem-solving (C), Data Structures, Computer Architecture and Microprocessors