Nayaab Azim

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EDUCATION

Virginia Tech Blacksburg, VA
Master of Engineering in Computer Science, **GPA: 3.8** Jan 2023 – Dec 2024

Coursework: Machine Learning, Database Management, Cloud Computing, System Design, Software Engineering

CV Raman Global University Bhubaneswar, India
Bachelor of Engineering in Computer Engineering, **GPA: 3.78** Aug 2017 – May 2021

WORK EXPERIENCE

Software Developer | *Etihad* Aug 2021 – Dec 2022

The project involved developing applications to integrate systems by transferring and transforming various message types. I developed a new adapter for cabin baggage for the Etihad Airline & Abu Dhabi Airport , using **IIB ACE** and **ESQL** to transform incoming **XML** data into **JSON** format. Additionally, I implemented logic to store the JSON data in **MySQL** databases using inline queries, configured **Jenkins pipelines** to automate the test, build, and deployment processes, ensuring a seamless **CI/CD** workflow, and published it to respective consumers through a **pub-sub** messaging model. I worked within an **Agile** methodology, utilizing **JIRA** for ticket tracking and efficiently resolving issues during sprint cycles.

Graduate Research Assistant | *Virginia Tech Transport Institute* Aug 2024 – Present

- The project focuses on developing an **AI-integrated** Autonomous Driving Truck to advance autonomous vehicle technology. I am creating simulations for a **Remote Driver** and **Remote Assistant**, enabling seamless testing and operational control.
- Designed and rigged a high-fidelity truck model in **Blender** and integrated it into **Unreal Engine 5.4.4.**
- Configured the **vehicle physics** in Unreal Engine using **C++** & **Blueprint** to make the truck drivable for participant testing.
- Imported driving environments using **Roadrunner plugins** and imported them into Unreal Engine
- Integrated **Vive Focus 3** headset to enable remote truck operation and would utilize **MATLAB** for data analysis.

Full Stack Java Intern | *Cognizant* Apr 2021 – Aug 2021

- Trained in **Java, Spring Boot, and Spring Hibernate to gain expertise in full-stack web development**.
- **Developed a book-selling e-commerce website** during the internship, implementing functionality using Java and Spring Boot and managing data storage with **JDBC.** Learned to structure **Maven** projects and implemented logic using **JSP**, **Servlets**, **multithreading**, **RESTful APIs**, **JDBC**, and **Spring Hibernate**.
- Trained in **Docker** to understand containerization for deploying web applications as part of a **microservices architecture**.

Machine Learning Intern | *Tata Steel* May 2018 – Aug 2018

- Developed a machine learning based solution for quality inspection of steel sheets in the coating department.
- Used **TensorFlow**, **OpenCV**, and **Keras** for implementing image processing techniques to detect surface defects.
- Automated defect detection, categorizing steel sheets as Defects or No Defects, reducing manual inspection efforts.

RESEARCH | *Expected publication: December 2024*

This research focuses on developing a mobile app (Android/iOS) to address social isolation among older adults.

- Co-developing a cross-platform mobile app using **React Native Expo.**
- Built a backend with **Typescript**, **Express**, **Prisma** & **MongoDB**, using **Redis** for caching and **GraphQL** for data queries.
- Integrated **Socket.IO** for real-time messaging, **AWS S3** to store any files & **CloudFront** to access the files in S3.
- Utilizing **FlatList** for **lazy loading**, **pagination** to split the message data for efficiency, and **JWT** for login.
- As part of next steps, incorporating **NLP** with **TensorFlow** and **Hugging Face** for advanced search and recommendation.

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SKILLS

Languages:	Java, Python, C++, SQL, NO SQL, JavaScript, TypeScript, Linux, HTML, ESQL
Frameworks:	React, Angular, Express, Spring Boot, GraphQL
Tools:	GitLab, Blender, Tableau, D3.js, Plotly, MATLAB, Jira, Redis, Docker desktop
Frameworks & Libraries:	TensorFlow, Keras, Mediapipe, Scikit-learn, NumPy, pandas, Matplotlib, Socket.IO