

# Nafis Rayan

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Portfolio: [nafisrayan.vercel.app](https://nafisrayan.vercel.app)

## EXPERIENCE

- **Tech-Dojo** Dhaka, Bangladesh  
*Junior Software Engineer* Feb 2024 - Present
  - **MERN Stack:** Collaborated with a team to develop scalable applications using MERN stack.
  - **ThreeJS:** Integrated ThreeJS for 3D rendering and interactive web experiences.
  - **React Native:** Developed Android and iOS applications using React Native.
  - **Database Optimization:** Improved database performance by optimizing algorithms, and SQL queries.
- **BRACU Mongol-Tori** Dhaka, Bangladesh  
*Autonomous & AI Engineer* Dec 2022 - Jan 2024
  - **AI Algorithms:** Designed and implemented AI algorithms for Mars rover navigation and task execution.
  - **Firmware Development:** Developed and tested firmware for rover localization and rescue missions.
- **BRACU Dichari** Dhaka, Bangladesh  
*AI & Firmware Engineer* Jan 2022 - Dec 2023
  - **Rescue Robots:** Built AI-powered robots for rescue missions with IoT components.
  - **Navigation Algorithms:** Developed navigation algorithms using Python and OpenCV to ensure real-time telemetry.

## PROJECTS

- **VRIA:** An innovative VR Assistant application using ThreeJS for 3D visualization, YOLO for AR visual context processing, Python Flask for backend, and HuggingFace API for voice-activated AI chat with real-time rendering.
- **DecentAI:** A comprehensive platform built using ReactJS and Flask, combining blockchain technology with AI to create a secure and intelligent space for community engagement and policy discussions. Leverages NLP and LLM for meaningful interactions and sentiment analysis while ensuring data security and user privacy.
- **PortalUp:** A web-based file upload system built with ReactJS for the frontend and NodeJS for the backend, enabling users to share or upload files and receive temporary URLs for secure, time-limited access.
- **AIContextChat:** A Streamlit-based chat app with LLM and NLP tools for AI-enhanced conversations, allowing users to upload PDF, TXT, DOCX files, and use real-time URLs for context.
- **GoFlix-AndroidTV:** A sophisticated mobile streaming application built with React Native and Expo, offering a Netflix-like experience with a robust video player, real-time comments, and offline capabilities.
- **ReactNative-Browser:** A mobile browser application developed using React Native, providing a customized browsing experience with various user-friendly features.
- **GoMert:** A smart NextJS E-commerce platform featuring dynamic UI and a robust Admin Panel for management.
- **yoloEYE:** A project using YOLO models for efficient object detection with a Streamlit interface. Supports YOLOv8, YOLOv9, and YOLOv10 for real-time detection on images and video streams.

## RESEARCH

- **The 11th International Conference on Networking, Systems and Security:** Developing an Intelligent Virtual Assistant for Extended Reality Environments: A Multi-Modal Approach for Understanding User Intent and Context using Computer Vision, Natural Language Processing, and Large Language Model.

## EDUCATION

- **BRAC University** Dhaka, Bangladesh  
*Bachelor of Science in Computer Science & Engineering* 2021 - 2025

## EXPERTISE

- **Programming Languages:** Python, JavaScript, TypeScript, C.
- **Frameworks & Tools:** ReactJS, NextJS, NodeJS, Expo, ExpressJS, Flask, Django.
- **Database:** MongoDB, SQLite, MySQL.
- **3D Graphics:** ThreeJS, WebGLStudio, Blender, Unreal Engine.
- **AI/ML:** OpenCV, OpenPose, YOLO, TensorFlow, Pytorch, Data Analysis.
- **Others:** HTML, Tailwind CSS, Material UI, Jest, NPM, Yarn, Redux, RESTful APIs.