Naheed Rayhan

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🌐 Portfolio

TECHNICAL SKILLS

Languages:	C, CPP, Go, Java, Python, C#, Dart
Frontend:	React, Vue.js, Next.js, HTML/CSS, Bootstrap, TailwindCSS
Databases:	MongoDB, PostgreSQL, MySQL, Redis, ArangoDB, VectorDB
AI/ML:	PyTorch, TensorFlow, Keras, RAG Systems, LLMs, Adversarial ML, GANs, NLP
Backend:	Node.js, Django, Flask, Express.js, Golang, gRPC, REST APIs, GraphQL
Cloud & DevOps:	AWS, Docker, Kubernetes, CI/CD, DigitalOcean, Nginx, Linux
Research:	Academic Writing, Experimental Design, Literature Review, Data Analysis

EXPERIENCE

- **Shikho** — *Dec. 2024 – *ongoing*
  Backend Engineer — Dhaka, Bangladesh
  - Working on Shikho AI and R&D team
  - Made custom **Router Library** for interfacing multiple LLM vendors for RAG system
  - Developed RAG system for Bangla NCTB board books for **1.6** Million active users
  - Migrating **1.2 Lac** Question Data from ArangoDB to MongoDB
  - Developed Live Leaderboard system for Shikho

- **SimplySolve Inc.** — *Oct. 2024 – March. 2025*
  AI Engineer — Texas , United States (Remote)
  - Made custom LLM pipeline to analyze **CSV** data with graph generation using **Agents**
  - Made RAG based pipeline using Amazon Bedrock
  - **Fintuned** LLMs for Business-specific domain

- **CPSD Technologies Ltd.** — *Oct. 2023 – Jan. 2024*
  Backend Engineer Trainee — Dhanmondi, Dhaka
  - Learn about CI/CD, GIT, GitHub, GitHub Actions, Kubernetes
  - Learn about ReactJS, Code Quality Checking and work with Digital Ocean, Linux, Docker, Docker Hub.

CERTIFICATIONS

- **IBM DevOps and Software Engineering Professional Certificate** — *April. 2024 – *ongoing*
  Professional Certification for DevOps — Coursera
- **Hands-on Introduction to Linux Commands and Shell Scripting by IBM** — *April. 2024 – June. 2024*
  IBM — Coursera
- **React Foundations For Next.js** — *Jun. 2025*
  Vercel — NextJS

ACHIEVEMENTS

- **NASA Space Apps Challange 2024(Dhaka Division)** LandSat Pulse — *Champion*
- **Sydney Coding Fest 2024** Project Showcasing(Senior) — *Ranked 4th*
- **CSE Day Festival 2024** Intra University Poster Presentation — *Champion*
- **CSE Day Festival 2024** Intra University Project Showcasing — *Ranked 5th*
- **SUST SWE Technovent Hackathon 2023** Garage Chai — *Ranked 11th*
- **CSE Day Festival 2023** Intra University Project Showcasing(Garage Chai) — *1st Runner-Up*
- **CSE Day Festival 2023** Intra University Project Showcasing(Code Compiler) — *2nd Runner-Up*
- **Nectar Robotic Olympiad 2023** Line Following Robot Segment — *Ranked 9th*
- **Nectar Robotic Olympiad 2022** Line Following Robot Segment — *Ranked 15th*
- **AUST ICPC 2022** Programming contest — *Ranked 45th*

POSITIONS OF RESPONSIBILITY

- **Team Lead,** NASA Space Apps Challange, Team Quantum Voyagers — *2024*
- **Co-Founder of IDEALTECH.LTD** SAAS solution provider — *2025*
- **Founding Executive Committee Member,** CSE JnU Robotics Club, JnU — *2022*
- **Covid Campus Vaccination Champaign Coordinator,** JnU — *2021*

Online Judge Acitvities

Codeforces solved 800+ problems.**(C/C++)**
LeetCode participated in contest and solved various categories of problems.

Personal Projects

- **LandSat Pulse**   *2024*
  *Simplifying access to Landsat satellite data with AI and real-time monitoring(**NASA Space apps Challange 2024**)*

  – Tools & technology used: **NextJS**, Tailwind CSS, Node.js, **Python (Flask)**, PostgreSQL, USGS Landsat API, Leaflet, Firebase, Docker, **AWS**
  – Description: Landsat Pulse is a web and mobile application designed to simplify access to Landsat satellite data. Users can create target land plots, monitor environmental changes, and receive notifications for satellite passes and data availability. The app supports IoT device automation, validates ground sensor data, and offers AI-powered prediction tools for future calamities. It democratizes satellite data analysis, making it accessible to both beginners and professionals.
    ▶ Watch Video
    ⌗ See Code

- **MinusOne**   *2024*
  *Gemini-powered CLI for a smarter, simpler Linux terminal.(**Gemini Developer Competition by Google**)*

  – Tools & technology used: **Golang** , GEMINI
  – MinusOne, an innovative AI agent that leverages large language models like Gemini to revolutionize your Linux terminal experience. MinusOne seamlessly translates your natural language prompts into precise commands, executing tasks flawlessly and simplifying complex operations. Even if something goes wrong, MinusOne can correct itself, ensuring that your operations run smoothly.
    ▶ Watch Video
    ⌗ See Code

- **openrouter-go**   *2024*
  Golang Library for routing to different LLM vendors

  – Tools & technology used: **Golang**
  – This library provides a Golang library for interacting with various AI models such as **OpenAI (GPT), Google Gemini, and AWS Bedrock**. The library supports both text completion and **multimodal** image recognition.
    ▶ Watch Video
    ⌗ See Code

- **Golang + Pocketbase**   *2024*
  REST API using GOLANG and MUX and POCKETBASE

  – Tools & technology used: **Golang** , MUX , Pocketbase, CI/CD . Github Actions.
  – This is a GO API template with MUX where the backend database is POCKETBASE. This is a proof of concept for a monolithic app. The pocketbase is suitable for handling 10,000 concurrent users.
    ⌗ See Code

- **Online Code Compiler**   *2022*
  Part of CSEL-3206: Software Engineering Lab

  – Tools & technology used: **ReactJS**, **NodeJS**, JavaScript, Python, Docker, Docker-compose, Redis ,Rabbitmq, jQuery, MySQL, CI/CD.
  – An Online Code Compiler and API to execute scripts in a Sandbox Environment . This online IDE can run C, C++, Java, Python,Dart and JS code online.
    ▶ See Video
    ⌗ See Code

- **RSA Encryption based Chat App**   *2023*
  Part of CSEP-3209 & CSEL-4110: Application Design and Development (Project)& Cryptography and Information Security Lab

  – Tools & technology used: Flutter, Dart, Firebase
  – A Flutter project to create a group-based chat app with end-to-end encryption with RSA Encryption.
  – Private key can be revoked from the device, keeping chats unreadable if compromised, and preventing unauthorized access from external or database sources.
    ▶ See Video

Research

- **Transient Turn Injection: Exposing Stateless Multi-Turn Vulnerabilities in Large Language Models. (NDSS 2026 - Under Review)** *2025*
Proposed and evaluated *Transient Turn Injection (TTI)*, a novel multi-turn attack that exploits stateless moderation by splitting adversarial intent across interactions. Developed an automated black-box evaluation framework, tested across OpenAI, Anthropic, Google, Meta, and open-source LLMs, uncovering unknown model-specific vulnerabilities. Suggested mitigation strategies including session-level context aggregation.

- **Latent Representation and Generative Augmentation with Graph-Based Learning for Imbalanced Leukocyte Cytomorphology Classification. (IEEE i-COSTE 2025 - Under Review)** *2025*
Proposed a hybrid framework integrating convolutional autoencoder embeddings, GAN-based augmentation, and GraphSAGE classification. Achieved 91.6% accuracy and improved macro-F1 on the AML-Cytomorphology-LMU dataset, enhancing recognition of rare leukocyte subtypes and improving cross-validation stability.

- **Leaf Diseases Prediction using Convolutional Neural Network Models: Performance Analysis and Comparison. (MDPI - Under Review)** *2025*
Benchmarked state-of-the-art CNN architectures for plant disease identification, highlighting effective models for real-world agricultural use cases. Results demonstrate the strengths and weaknesses of different CNN approaches under varying dataset and environmental conditions.

- **LLM Enhancer: Merged Approach using Vector Embedding for Reducing Large Language Model Hallucinations with External Knowledge. (arXiv Preprint)** *2023*
Introduced the *LLM-ENHANCER* framework combining vector embeddings with multi-source retrieval to reduce hallucinations in LLMs. Compared GPT-3.5 and Mistral 7B, with and without augmentation, showing measurable improvements on WikiQA and a custom dataset.

Education

- **Jagannath University** *CGPA: 3.49*
Bachelor of Science in Computer Science & Engineering *2019-2024*
- **National Ideal College** *GPA: 5.00*
Higher Secondary School Certificate (Board of Intermediate and Secondary Education, Dhaka) *2018*
- **Aftab Uddin High School** *GPA: 5.00*
Secondary School Certificate (Board of Intermediate and Secondary Education, Dhaka) *2016*