

Maruf Rahman

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EDUCATION

Daffodil International University

Bachelor of Science in Computer Science and Engineering

Ashulia, Dhaka, Bangladesh

May 2022 – April 2026

- CGPA: 3.67 / 4.00
- Participated in multiple university programming contests; finalist in **Takeoff** and **Unlock the Algorithm** (Top 20).
- Completed multiple academic projects in full-stack development and TechnoCart v2 hackathon finalist.
- Executive member of Computer and Programming Club.

TECHNICAL SKILLS

Programming Languages: Python, C/C++, JavaScript, TypeScript.

Frameworks & Libraries: Next.js, React, Turborepo, HonoJS, NextAuth, Prisma, TailwindCSS, Firebase.

Databases, Backend & Systems: PostgreSQL, MongoDB, Redis, REST APIs, Pub-Sub Architecture, Message Queues.

Cloud & DevOps: AWS, Docker, Linux, Git.

PROJECTS

- **Deepfetch AI** – Real-time AI Search Engine [GitHub](#) | [Demo](#)

Problem: Traditional search engines are cluttered with ads and SEO noise, while standard LLMs lack real-time web grounding and verifiable citations for their claims.

Solution: Developed a Perplexity-style search interface that integrates real-time web search with deep-reasoning LLMs to provide cited, evidence-based answers in a high-impact Neo-Brutalist UI.

Tech Stack: Next.js 15, NestJS, TypeScript, TailwindCSS v4, Zustand, Tavily AI, OpenRouter SDK, React Markdown.

Key Features: Real-time web-grounded reasoning, cited source panel, robust JSON stream extraction, 120s high-patience API proxy, and automated follow-up query generation.
- **Eid Er Jamaat Koi?** – Mobile-First Progressive Web App [GitHub](#) | [Demo](#)

Problem: During Eid, finding accurate and timely information about nearby Jamaat locations is difficult as data is scattered across banners and word-of-mouth, especially for travelers or new residents.

Solution: Developed a real-time, crowdsourced mapping platform where users can add mosques and prayer times via an interactive map, with validation mechanisms to ensure data accuracy.

Tech Stack: Next.js 14, React 18, TypeScript, Zustand, PostgreSQL, Supabase, Prisma, React Leaflet, Google Maps API, Firebase Phone Auth.

Key Features: Real-time map with geolocation, color-coded prayer status (upcoming/missed), navigation integration, spam-protected crowdsourcing with GPS validation, bilingual support (English/Bangla).

Ai Tools Used: Antigravity, Claude.
- **PPTPal** – Secure Presentation Sharing Web App [GitHub](#) | [Demo](#)

Problem: Students needed a hassle-free way to share PPTs for classes without sharing personal accounts or using pendrives which will also be secure and role-based access control.

Solution: Built a platform where users can create rooms with a password to upload PPTs/PDFs. Guests can upload; room creators/admins can manage files securely.

Tech Stack: Next.js, NextAuth, Prisma, PostgreSQL, TailwindCSS, UploadThing, UI component libraries, OAuth.

Key Features: Role-based access, secure storage, file upload up to 50MB, simple UI/UX for easy navigation.

PUBLICATIONS

- **Sentiment Analysis of YouTube Comments: A Comprehensive Study of Machine Learning Models** [Link](#)

Co-authored a research paper analyzing over 18,000 YouTube comments to classify user sentiment as positive, neutral, or negative. Developed a complete machine learning pipeline including text preprocessing, noise removal, TF-IDF feature extraction, and class balancing with SMOTE. Evaluated seven machine learning models, including Random Forest, SVM, Logistic Regression, and XGBoost, achieving **88.31%** accuracy with Random Forest, which outperformed other models.