

Md Adnan Arefin Ratul

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Summary

Accomplished entrepreneur and Full-Stack Software Engineer with over 5+ years of hands-on experience in designing, developing, deploying, and scaling robust web applications and enterprise solutions. Specialized in ERP and Business Management Systems (BMS) implementation, requirements analysis, project management, and process optimization. Proficient in modern frontend technologies including React, Next.js, TypeScript, Tailwind CSS, and backend development with Node.js, Express.js, PHP, and Python. Experienced with databases such as MySQL, PostgreSQL, MongoDB, and Firebase, along with RESTful APIs, cloud services, Git, CI/CD, and performance optimization. Passionate about leveraging cutting-edge technologies to solve complex challenges and foster innovation.

Education

Southeast University <i>B.Sc. in Computer Science & Engineering</i>	252, Tejgaon I/A, Dhaka-1208 June 2024 – present
◦ Current CGPA 3.88	
Sirajganj Collectorate School & College <i>HSC in Science</i>	Sirajganj Sadar, Sirajganj Jan 2023 – Aug 2024
Sirajganj Police Lines School & College <i>SSC in Science</i>	Sirajganj Sadar, Sirajganj Nov 2022

Experience

CTO <i>Vitaglow Bangladesh</i>	Dhaka, Bangladesh Mar 2025 – present
◦ Architected a low-overhead, high-availability e-commerce platform and custom inventory infrastructure with 99.97% operational uptime.	
◦ Generated over 10k+ in additional monthly profit by shifting operations to the custom digital application.	
◦ Engineered and scaled an agile inventory management system designed to handle systemic database limitations smoothly during order spikes.	
Software Engineering Intern <i>Building Plan Engineering Consultant & Developer</i>	Kazibari Mor, Eastern Housing, Pallabi, Mirpur 12, Dhaka-1216 Nov 2024 – June 2025
◦ Designed and deployed a custom web-based cash-basis accounting application to streamline internal corporate financial reporting.	
◦ Developed automated transactional systems featuring integrated digital invoicing and instant email verification pathways.	

Founder

Sirajganj Sadar, Sirajganj

Proyojonio Bazar

Jan 2024 – Feb 2025

- Conceptualized and launched a localized direct-to-consumer business model connecting regional farmers to digital marketplaces.
- Programmed a custom full-stack inventory management web application to track metrics across the entire lifecycle, from product import to point-of-sale
- Managed day-to-day operations, supply chain logistics, customer service systems, and sales strategies during initial proof-of-concept testing.

Social Media Manager

Sirajganj Sadar, Sirajganj

Itakayonno

Aug 2021 – Jan 2023

- Website Development and Blog Management
- Facebook and Youtube Management
- On-site volunteer.

Skills

Languages: HTML, CSS, JavaScript, TypeScript, C, C++, Python

AI & Automation: OpenAI API ,RAG ,Vector Databases ,WhatsApp Automation ,OpenClaw

Databases: MySQL, PostgreSQL, MongoDB, Supabase, Firebase, Redis

Cloud & DevOps: AWS, Cloudflare , Git, GitHub Actions ,CI/CD ,Linux ,Vercel ,Firebase Hosting

Frontend: React, Next.js, HTML5, CSS3, Tailwind CSS, Bootstrap, Shadcn UI, Magic UI, Material UI.

Backend: Node.js, Express.js ,FastAPI,Flask ,REST APIs ,WebSockets ,SSE

Projects

Roots AI

June 2026

Roots AI, an AI-powered adaptive learning platform.

- Built the MVP using Next.js 16 and Gemini, featuring a "Concept MRI" diagnostic engine that identifies knowledge gaps and maps unmet prerequisite concepts.
- Developed multimodal learning features, including image-to-problem conversion and voice-based Feynman Technique assessments to verify student mastery.

Anonymous Chat Room [↗](#)

Apr 2026

Developed an anonymous chat room web application using SSE for real-time communication and end-to-end encryption.

- Built end-to-end encrypted real-time chat platform supporting anonymous users.
- Implemented Redis-backed room management and SSE communication.
- Technologies: React.js, TypeScript, Redis, Python, FastAPI, TailwindCSS, Shadcn UI.

Sudo Whatsapp Bot [↗](#)

Feb 2026

AI-powered WhatsApp bot utilizing Free APIs to answer questions, generate games, and perform automated tasks.

- Designed for easy integration and customization for WhatsApp users.
- Technologies: TypeScript, OpenAI, whatsapp-web.js, Cheerio.

UP NEXT BANK [↗](#)

May 2021

Open-source banking system tailored for small-scale financial operations using Google Workspace tools.

- Transformed Google Sheets and Forms into a lightweight, functional banking platform with EmailJS integration.
- Technologies: Vanilla JavaScript, Google Apps Script, Google Sheets.

Hackathons

The Infinity AI BuildFest

Finalist for building Roots AI, an AI-powered learning platform providing dynamic learning paths and personalized experiences for Edtech.

- Recognized as finalists among competitive teams and presented to a panel of industry experts.
- View on LinkedIn [↗](#)

*Brac University, Dhaka,
Bangladesh
June 2026*

References

Engr Md Moin Uddin

Sr. Project Manager & ERP System Developer at Debonair Group
Mobile: 01709650605

Mohakhali DOHS, Dhaka

Email: engr.moin1@gmail.com

Relation: Technical & Industry Reference

Engr Tauhidur Rahman

Managing Partner & Civil Engineer at Building Plan Engineering C & D
Mobile: 01718592869

Mirpur 12, Dhaka 1216

Email: building.plan.ecd@gmail.com

Relation: Professional Project Supervisor