TANVIR HASAN ABIR

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LinkedIn | GitHub | Portfolio

EDUCATION

Bachelor of Science in Software Engineering (Expected: December 2025)
Institute of Information Technology (IIT)
University of Dhaka

Higher Secondary School Certificate (2018 - 2020)
Govt. Science College - Dhaka

SKILLS

- **Programming Language:** C, C++, Java, JavaScript, Python, SQL
- **Web Development:** MERN Stack (MongoDB, Express.js, React, Node.js)
- **Tools:** Selenium, Maven, Postman, Docker, GitHub
- **Others:** UI/UX Design (Figma), Linux

PROJECTS

TripMinds (GitHub Link)
MERN Stack (MongoDB, Express.js, React, Node.js), FastAPI
- Engineered an AI-powered platform that generates personalized travel itineraries with integrated weather updates and smart image search for enhanced user experience.

Stack-OverFlow2.0 (GitHub Link)
React.js, Express.js, MongoDB, MinIO
- *Developed a Stack Overflow-like web app with user authentication, post creation, and notifications. Refactored into microservices to enhance scalability and modularity.*

EcoSync (GitHub Link)
MERN Stack (MongoDB, Express.js, React, Node.js)
- Developed a waste management platform for Dhaka North City Corporation (DNCC), improving urban sustainability and operational efficiency. Delivered within 8 days.

Mini-Chess (GitHub Link)
Express.js, React.js, Tailwind CSS
- Developed an AI for a simplified 6x5 chess game using Minimax with alpha-beta pruning. Created an intuitive interface with an evaluation function to optimize decision-making.

IIT Routine & Lab Management System (GitHub Link)
MERN Stack (MongoDB, Express.js, React, Node.js)
- Developed a resource optimization system to manage classrooms, labs, and schedules at the University of Dhaka's IIT, improving facility utilization and reducing scheduling conflicts.

Project CoolCity (DevPost Link)
MERN Stack (MongoDB, Express, React, Node.js)
- Collaborated with a team to develop an AI-driven solution to mitigate rising urban temperatures caused by climate change, delivering innovative features under a 48-hour deadline

Derivative Calculator (GitHub Link)
C++
- Built a mathematical tool using C++ that parses expressions and applies differentiation rules to calculate derivatives efficiently.

City Garden (Prototype Link)
Figma
- Designed a mobile app for GreenScape to empower urban gardening, featuring personalized planting calendars, AI assistant, community sharing, and AR tours. Focused on accessibility and adaptive UI for a seamless user experience.

ACHIEVEMENTS

- **Competitive Programming: Pupil at Codeforces** (max ratings: 1200+)
- Successfully solved **450+** problems on platforms including Codeforces, CodeChef, HackerEarth, LeetCode, and GeeksforGeeks, enhancing skills in algorithms and data structures.
- **Top 10 Finalist at BUET CSE Fest 2024** in the **AI & API Hackathon** segment.
- Won the *Winner* category at the **AI for Change Hackathon.**

WORK EXPERIENCE

- Organizing Secretary at IIT Software Engineers' Community (IITSEC)
- Volunteered at **ITverse 2023**, led a team to organize tech events, workshops, and hackathons for **200+** participants.
- Volunteered at **বইমেলা কম্পাস**, assisting in organizing activities.

REFERENCE

Dr. Ahmedul Kabir
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Research Lead, BARTA Research Group
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