

# TASFIA SHOBNOM ANIKA

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## PROFESSIONAL SUMMARY

Dedicated and results-driven backend developer with a strong foundation in designing, building, and optimizing scalable web systems. Skilled in developing RESTful APIs, managing databases such as MongoDB and MySQL, and implementing secure authentication using JWT and OAuth standards. Experienced in using Node.js, Express, and Docker to build maintainable server-side architectures with efficient data flow and performance tuning. Adept at debugging, version control (Git), and collaborating with cross-functional teams to deliver reliable and production-ready solutions. A well-suited candidate for dynamic backend development roles requiring technical precision, teamwork, and problem-solving excellence.

## EDUCATION

### BRAC University

*B.Sc. in Computer Science and Engineering*

Dhaka, Bangladesh

*Oct 2021 – Oct 2025*

### Holy Cross College

*HSC, Science (GPA 5.00/5.00)*

Dhaka, Bangladesh

*Jul 2018 – Sep 2020*

## EXPERIENCE

### Mentee, Womentor 6.0

*Banglalink*

Dec 2024 – June 2025

*Dhaka, Bangladesh*

- Completed mentorship on digital product workflows, stakeholder communication, and structured reporting.
- Mapped communication pipelines and produced concise leadership updates for cross-functional mini-projects.

### Mathematics Teacher (SAT)

*College Mastermind*

Mar 2024 – Sep 2024

*Remote, USA*

- Raised average SAT Math scores by **20%** across **15+** students with targeted remediation plans.
- Authored **30+** practice sets; tracked weekly metrics to reduce repeated error types.
- Coached time-management strategies that cut per-section overrun by **25%**.

## SELECTED PROJECTS

### BRACU CGPA Calculator & AI Study Planner

[GitHub]

*React, Node.js/Express, MongoDB, Material-UI*

- Architected a full-stack platform with **3 core modules**: CGPA calculator, AI study planner, and motivation assistant.
- Implemented planner logic that converts courses, deadlines, and available hours into weekly study schedules and exam countdowns.
- Developed a **lightweight logistic regression** intent model on the frontend to handle requests (e.g., “improve CGPA”) with **zero external API cost**.
- Designed MongoDB schemas for **4 primary entities**: Users, Semesters, Courses, Tasks/Deadlines; built REST **CRUD** endpoints in Express.
- Built responsive UI with Material-UI components and reusable React hooks for state, form handling, and schedule generation.

### Cybercrime Reporting Platform

[GitHub]

*Spring Boot, React.js, PostgreSQL, Docker*

- Designed a secure, user-centric web platform to file and track cybercrime complaints; built RESTful services in Spring Boot with layered architecture and DTO validation.
- Implemented token-based authentication with Spring Security, role-based access (user/admin/department), password reset, and admin approval workflow.

- Built the complaint lifecycle: department routing, suspect metadata, evidence uploads, edit-after-submit, and status transitions with a report-tracking dashboard.
- Developed a real-time chatbot for user-admin communication with file sharing; added global search and a guidance hub (fraud types, step-by-step guide, news, FAQs).
- Modeled the relational schema in PostgreSQL; containerized backend and DB with Docker Compose; deployed frontend on Vercel; added tests with JUnit/Mockito and Jest/React Testing Library.

## Easy Edu Educational Platform

[GitHub]

*Django, Python, MySQL*

- Engineered authentication with **role-based access** (instructor/student) and an admin CMS; secured routes via middleware.
- Modeled core entities (Users, Courses, Lessons, Submissions, etc.) in MySQL and optimized indexes to improve query performance.
- Modularized templates and components to reduce duplicate UI code and improve maintainability.

## Trip Management Web App

PHP, MySQL

- Implemented destination filtering, cost estimation, and itinerary **CRUD** with prepared statements for safer queries.
- Normalized schema (**3NF**); designed endpoints for trip/expense operations and added server-side validation.

## 3D Rendering Application

OpenGL, C++

- Built a real-time renderer for **3** primitives (cube, sphere, pyramid) with Phong lighting and basic camera controls.
- Achieved **60+ FPS** on lab hardware by optimizing draw calls and using vertex buffers.

## TECHNICAL SKILLS

<b>Languages</b>	Python, JavaScript, Java, C/C++, C#, PHP, SQL, HTML, CSS
<b>Frameworks</b>	React, Node.js, Express, Django, Flask, Material-UI, OpenGL
<b>Databases</b>	MongoDB, MySQL
<b>Concepts</b>	OOP, Data Structures & Algorithms, REST APIs, MVC, Authentication, RBAC, Logistic Regression (NLP intent), Unit Testing (pytest/Jest basics)
<b>Tools</b>	Git & GitHub, Linux, VS Code, PyCharm, Postman, Excel/Word/PowerPoint

## RESEARCH PUBLICATIONS

- **Towards Usable Cybercrime Reporting Systems through the Usability Principles: A Study in the Context of Bangladesh** — Tasfia Shobnom Anika, Omar Shahariar, Taskia Raushan Ferdousi, Md. Ibna Sohayab, Nowshin Nusrat Neha — *Undergraduate Thesis, Department of Computer Science and Engineering, BRAC University* Oct 2024-Present

## RELEVANT COURSEWORK

Algorithms & Data Structures; Database Systems; Operating Systems; Computer Networks; Human-Computer Interaction; Web Programming; Computer Graphics; Information Security

## ACTIVITIES & CERTIFICATIONS

- Duke of Edinburgh's International Award – Bronze Standard (2023)
- Assistant Publication Secretary, Holy Cross College Debating Club (2018–2020); event volunteering and student mentoring