Faiyaz Morshed Khan

HCI Researcher

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EDUCATION

School of Data and Sciences, BRAC University   Badda, Dhaka
Bachelor of Science in Computer Science & Engineering   *Oct 2021 – Sep 2025*
CGPA: 3.53/4.00

Dhaka Residential Model College   Mohammadpur, Dhaka
Higher Secondary Certificate (Science)   *Jul 2018 – Mar 2020*
GPA: 5.00/5.00

Dhaka Residential Model College   Mohammadpur, Dhaka
Secondary School Certificate (Science)   *Jan 2016 – Feb 2018*
GPA: 5.00/5.00

THESIS / RESEARCH EXPERIENCE

The Digital Democracy Paradox: When Usability and Literacy   Accepted - ACM CHI' 26
Barriers Undermine Inclusive E-Government   *Sep 2025 – Apr 2026*

An extended and publication-ready version of my thesis with refined framing, clearer methods, and strengthened contributions.

- Added clear research questions, improved mixed-methods clarity and expanded methodological transparency.
- Streamlined narrative around key usability and literacy barriers using the LAUF framework.
- Clarified contribution novelty, including Civix UI and OSDSC design enhancements.

Exploring Usability Issues of E-Government Websites in Bangladesh   BRAC University
and Their Impact on Users with Limited Digital Literacy   *Oct 2024 – Jun 2025*

Conducted comprehensive mixed-methods research on Bangladesh's e-government platforms and developed standardized design solutions to improve digital accessibility and usability for citizens with limited technical skills.

- Evaluated government websites, identifying UX issues and recommending design improvements.
- Developed Civix UI, a standardized, accessible component library for e-government platforms.
- Built prototypes like E-Passport Redesigned with optimized user flows and better form handling.

PROJECTS

MediHelp – Emergency Pharmacy Platform | *MERN Stack, MongoDB, Figma*   Code
A web-based emergency pharmacy platform helping users locate nearby pharmacies and access medicine availability in real-time.

- Designed intuitive UI/UX prototypes in Figma and created responsive frontend using React.
- Built REST APIs and backend services using Node.js and Express.
- Integrated an NLP-based chatbot to handle basic queries and assist navigation.

Mobile Banking Service (Assembly) | *Assembly Language, x86 Architecture, EMU8086*   Code
A simulated banking system demonstrating low-level hardware control and secure transaction processing using Assembly Language.

- Applied register manipulation, memory addressing, and branching logic in x86 architecture.
- Simulated transaction validation and error handling mechanisms.

- Strengthened understanding of low-level system operations and algorithm design.

BoxQuest – 2D Puzzle Game | *Python, OpenGL, GLUT* Code

An interactive 2D puzzle-adventure game built using OpenGL with custom graphics algorithms and real-time rendering.

- Implemented Midpoint Line and Circle Drawing algorithms for precise graphical rendering.
- Expanded level-based gameplay logic for enhanced engagement.

Online Library Management System | *SQL, PHP, HTML, CSS, JavaScript* Code

A database-driven web application for managing books, users, and transactions with secure and optimized backend operations.

- Created relational database schema with optimized SQL queries ensuring data integrity.
- Improved efficiency of record management compared to manual systems.

Smart Solar Tracker | *STM32, Arduino, Communication Protocols* Code

A dual-axis solar tracking and safety monitoring embedded system integrating multiple sensors for real-time environmental analysis and automated control.

- Initiated LDR-based servo motor control for automatic dual-axis solar panel alignment.
- Enabled wireless communication and alerts using Bluetooth module.
- Designed embedded firmware for real-time sensor data processing and actuator control.

Water Level Detector and Pump Controller | *MOSFET, Comparator Circuit* Code

An automated water level monitoring system executed to prevent overflow and optimize pump control using cost-effective electronic components.

- Built comparator and MOSFET-based switching circuit for automatic pump activation.
- Reduced water wastage through an efficient and reliable tank monitoring system.

Technical Skills

Programming Languages & Scripting: Python, JavaScript, TypeScript, SQL
Frontend Development: Next.js, React, Redux
UI Frameworks: Tailwind CSS, Bootstrap, DaisyUI
Backend Development: Express, Flask, Node.js
Database & ORM: MySQL, PostgreSQL, MongoDB, Mongoose, SQLAlchemy
Cloud & DevOps: Firebase, Vercel CI/CD, Docker
Server & Deployment: AWS, Nginx, VPS (Ubuntu)
Tools & Platforms: Git, VS Code, Postman, Vercel, Netlify
Other Skills: GraphQL, REST API, JWT, OAuth2

Languages

Bangla (Native), English (Fluent), Chinese (Basic)

References

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