

NILOY AHSAN

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CAREER SUMMARY

Computer Science graduate and MSc student specializing in Data Science with experience in full-stack web development, machine learning, academic research, and technology-driven social initiatives. Skilled in developing web applications, AI solutions, and data-driven systems with additional experience in teaching assistance, interdisciplinary research, and community leadership. Interested in artificial intelligence, healthcare, human-centered computing, and building technology solutions with real-world impact.

EDUCATION

Master of Science in Computer Science and Engineering <i>BRAC University; Data Science Specialization</i>	Oct. 2025 – Present <i>Dhaka, Bangladesh</i>
Bachelor of Science in Computer Science and Engineering <i>BRAC University; CGPA: 3.72/4.00</i>	Feb. 2021 – Feb. 2025 <i>Dhaka, Bangladesh</i>
Higher Secondary Certificate <i>Banophool Adibashi Green Heart College; GPA 4.83/5.00</i>	Jan. 2018 – Jan. 2020 <i>Dhaka, Bangladesh</i>
Secondary School Certificate <i>Glory School and College; GPA 4.61/5.00</i>	Jan. 2016 – May. 2018 <i>Dhaka, Bangladesh</i>

TEACHING EXPERIENCE

Undergraduate Teaching Assistant <i>CSE Department, BRAC University</i>	Oct. 2023 – Jan. 2025 <i>Dhaka, Bangladesh</i>
- Course Taken: Programming Language Java (CSE110) & Electronic Devices and Circuits (CSE251) - Provided consultation 15 hours/week, assisted students in labs and graded assignment copies.	
<i>MNS Department, BRAC University</i>	<i>Dhaka, Bangladesh</i>
- Course Taken: Linear Algebra & Fourier Analysis (MAT216). - Provided consultation 15 hours/week, assisted students in theory and graded assignment copies.	

PROJECTS

Nirapod Shobdo (Website and App) Live  <i>HTML, CSS, JavaScript, DART, Flutter</i>	Feb. 2026 – Present
- Developed a web platform to present an accessibility-focused application for persons with disabilities. - Built an Android App to report on their rights and file complaints through different modes. - Designed responsive UI and accessibility features to make the app's content inclusive.	
RAG-based Medical Chatbot  <i>Python, LangChain, Hugging Face, FAISS</i>	Mar. 2026 – Present
- Developed a RAG-based chatbot using LangChain for context-aware medical query answering. - Built a document ingestion pipeline to process multiple PDF sources and generate embeddings. - Implemented a FAISS-based vector database for efficient semantic search and retrieval.	
Handwritten Bangla Human Name Recognition  <i>TensorFlow, Grad-CAM, LIME</i>	Nov. 2025 – Jan. 2026
- Developed a DL framework for handwritten Bangla name recognition using a self-collected dataset. - Applied transfer learning and among these, ResNet50 achieved 83.89% test accuracy. - Implemented ensemble learning and XAI techniques for model interpretability.	
Inventory Management Dashboard  <i>Laravel, PHP, MySQL</i>	2025 – Present
- Designed and developed an inventory tracking system to manage stock and product records. - Analyzed business requirements and translated operational needs into system functionalities. - Created reporting and data management features to support inventory monitoring and decision-making.	

BRACU Research Hub |

Apr. 2025 – Present

Laravel, MySQL, PHP, HTML, CSS, JS

- Developed a platform to help students find and join faculty research projects.
- Used Laravel MVC framework with MySQL for backend data management.
- Implemented search and filter features for research topics and faculty profiles.

Heart Disease Prediction |

May 2025 – Jul. 2025

Scikit-learn, NumPy, Pandas, Matplotlib

- Built ML classifiers to assess heart disease risk from clinical data.
- Conducted exploratory data analysis and optimized model performance.

Diabetes Prediction |

Apr. 2024 – May 2024

Scikit-learn, NumPy, Pandas, Matplotlib

- Implemented ML models to predict diabetes risk using patient health data.
- Performed data pre-processing and visualization to enhance model accuracy.

Healthy Habits Diet Planner |

Feb. 2024 – May 2024

Laravel, MySQL, PHP, HTML, CSS, JS

- Built a diet planning web app using Laravel with MVC architecture.
- Enabled users to track, manage, and log daily meals and nutrition goals.
- Used MySQL for data storage and implemented user authentication.

TECHNICAL SKILLS

Programming: Python, Java, C, PHP, SQL, JavaScript, HTML, CSS

Frameworks: Laravel, React, Node.js, Bootstrap, WordPress

Developer Tools: LaTeX, Git, MySQL, XAMPP, VS Code, Figma

Research Skills: Literature Review, Research Methodology, Data Analysis, Survey-Based Research, Academic Manuscript Preparation

Soft Skills: Time Management, Leadership, Communication, Team Collaboration

RESEARCH EXPERIENCE

Being Heard Without Being Connected: Emotional Dependence on AI Chatbots and Its Effects on Mental Health among University Students in Bangladesh | [Preprint](#)

Dec. 2025 – Present

Fields: HCI, AI Ethics, Mental Health Informatics

Robust Handwritten Bangla Human Name Recognition Using Deep Learning, Ensemble Models and Explainable AI | [Preprint](#)

Dec. 2025 – Present

Fields: Computer Vision, Deep Learning, Explainable AI

Time-Sliced Round Robin (TSRR) Scheduling for Flow-Aware Load Balancing in Software Defined Networks | [Preprint](#)

Mar. 2025 – Present

Field: SDN, Network Optimization, Machine Learning

Data Searching On Cloud Storage: A Comparative Analysis | [Preprint](#)

Nov. 2023

Field: Cloud Computing / Cloud Storage Systems

PUBLICATIONS

1. Tashick, M. J., Dass, A., Saha, S., **Ahsan, N.**, Mashrafi, A., Akuthota, V., Ashraf, M. S., Anwar, A. S., Saad, S. B., & Reza, M. T. (2025). *Quantum-Enhanced Tax Revenue via A-Challan: ML, LLMs, and QML Approaches*. In *2025 IEEE International Women in Engineering (WIE) Conference on Electrical and Computer Engineering (WIECON-ECE)* (pp. 49–54). IEEE. [\[DOI\]](#)
2. Ghosh, C. R., **Ahsan, N.**, Islam, M., Noor, R., & Mashrafi, A. (2025). *An SDN-based Approach Using RYU Controller for Load Balancing and Performance Evaluation in Hybrid Networks with Machine Learning Algorithms*. Bachelor's Thesis, Department of Computer Science and Engineering, BRAC University. [\[DOI\]](#)

CONFERENCE POSTERS & PRESENTATIONS

1. **Enhancing Hybrid Network Efficiency: An SDN-Based Approach to Load Balancing and Performance Evaluation**. Poster presented at the *11th International Conference on Networked Systems (NSysS 2024)*, Dhaka, Bangladesh | [Poster](#) Dec. 2024

ACADEMIC SERVICE

Peer Reviewer, *Future Generation Computer Systems (FGCS)*, Elsevier | [Certificate](#)

Jun. 2026

EXTRACURRICULAR ACTIVITY

Member – Partnership & Outreach Department

May 2026 – Present

Shobar Aage Mon (SAM)

Dhaka, Bangladesh

- Built collaborations and connected SAM with organizations and communities.
- Sent emails, arranged meetings, presented SAM professionally, and maintained partner communication.

Senior Executive – IT & Marketing Department

Mar. 2024 – Jul. 2025

BRAC University Communication and Language Club

Dhaka, Bangladesh

- Managed technical and digital promotion strategies for large-scale university events.
- Collaborated with executive teams to coordinate planning, communication, and execution.

Semi-Finalist, ReVenture Intra-University Competition | [🔗](#)

May 2025

BRAC University Entrepreneurship Development Forum (BUEDF)

Dhaka, Bangladesh

- Achieved semi-finalist status as part of ‘Team Mismatchers’ in the competition.
- Created an OVC for the semi-final on how Citycell can return to the market by focusing on reforms.

COMMUNITY ENGAGEMENT & SOCIAL IMPACT

Co-Founder, MonBritto (📘) – A mental health initiative focused on improving mental health literacy and emotional well-being among school students.

Jun. 2026 – Present

Co-Founder & Lead Developer, Nirapod Shobdo (📘) – An initiative to make legal rights more accessible to persons with disabilities and promote inclusive access to justice.

Nov. 2025 – Present

Co-Founder & Communications Coordinator, Team Shunte Chai (📘) – A youth-led initiative promoting mental health awareness, advocacy, and support for university students.

Oct. 2025 – Present

VOLUNTEERING EXPERIENCE

Volunteer, BRAC University 16th Convocation | [🔗](#)

2025

BRAC University

Dhaka, Bangladesh

Volunteer, Speakathon – State-level Public Speaking Competition | [🔗](#)

2024

BRAC University Communication and Language Club

Dhaka, Bangladesh

Volunteer, International Conference on “Language Metamorphosis” | [🔗](#)

2024

BRAC Institute of Languages, BRAC University

Dhaka, Bangladesh

CERTIFICATES

Intermediate SQL – DataCamp

2025

Certificate ID: [2d084fabe0c29e0fe235dfad498575db2e270f91](#)

Online

Introduction to Git – DataCamp

2025

Certificate ID: [48ce91465e926b496c074f004eb66f42349333ba](#)

Online

Understanding Artificial Intelligence – DataCamp

2025

Certificate ID: [324df1ee24faa9707763aa6930fe887216c885a1](#)

Online

Certified Online UX/UI Designer Course – Bdcalling Academy

2024

Certificate ID: [bdCV&C#161](#)

Online

HONORS & AWARDS

BSc High Distinction — BRAC University (CGPA: 3.72/4.00)

Dean’s List & Vice Chancellor’s List — BRAC University (7 semesters)

Merit-based Scholarship — BRAC University (2 semesters)

REFERENCES

1. Dr. Jannatun Noor Mukta

Associate Professor, Dept. of CSE
Director, Data Science Program
United International University
Email: jannatun@cse.uiu.ac.bd
Relationship: Thesis Supervisor

2. Afnanul Hassan

CVM & Digital Analytics Specialist
Business Intelligence & Analytics
Commercial, Banglalink
Email: afnanul.hassan@banglalink.net
Relationship: Other