Md Asif Bin Khaled

SENIOR LECTURER · RESEARCHER

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Research Interests

- **Explainable AI (XAI):** Ensuring transparency and trustworthiness in disease detection, diagnosis, and healthcare analytics utilizing **Artificial Intelligence (AI)**.
- **Multimodal AI (MMAI) & Computer Vision (CV):** Using **Multimodal AI (MMAI)** and **Computer Vision (CV)** to combine imaging, clinical records, and lab results for holistic diagnostics.

Education

Independent University, Bangladesh (IUB)   *Dhaka, Bangladesh*

M.SC IN COMPUTER SCIENCE, **CGPA: 3.76/4.0**   *May 2017 - Dec. 2018*

- Graduated with **Distinction (Cum Laude)**.
- Thesis: **Word Sense Disambiguation of Bengali Words using FP-Growth Algorithm**
- Advisor: **Dr. Mahady Hasan**.

BRAC University (BRACU)   *Dhaka, Bangladesh*

B.SC IN COMPUTER SCIENCE AND ENGINEERING, **CGPA: 3.80/4.0**   *Jan. 2013 - Apr. 2017*

- Graduated with **Highest Distinction (Summa Cum Laude)** and achieved **Vice Chancellor's Award** for Academic Excellence **6** times.
- Thesis: **Exploring Deep Features: Deeper Fully Convolutional Neural Network for Image Segmentation**.
- Advisor: **Mr. Moin Mostakim**

Professional Experience

Independent University, Bangladesh   *Dhaka, Bangladesh*

SENIOR LECTURER – DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING   *Feb. 2023 – Present*

- Courses Taught: **Introduction to Programming**, **Algorithms**, and **Finite Automata and Computability**
- Supervised and evaluated students' research projects, theses, and academic progress with an average evaluation score of **4.32/5**.
- Served as **Coordinator & Faculty Member** of the **Live-in-Field Experience (LFE)** program **4 times**, guiding students in field-based activities.

Independent University, Bangladesh   *Dhaka, Bangladesh*

LECTURER – DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING   *Jan. 2019 – Feb. 2023*

- Courses Taught: **Fundamentals of Computer System**, **Algorithms**, **Data Structures**, **Discrete Mathematics**, and **Numerical Methods**
- Conducted lectures, tutorials, and lab sessions.
- Developed course outlines and implemented **Outcome-Based Education (OBE)** strategies across multiple courses.

BRAC University   *Dhaka, Bangladesh*

ADJUNCT LECTURER – DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING   *Sep. 2017 – Dec. 2018*

- Courses Taught: **Computer Graphics Lab**, **Numerical Methods Lab**, **Compiler Design Lab** and **Android Development Lab**
- Developed lesson plans for sessions, administered exams, graded assignments, and provided student feedback.
- Conducted labs for courses with programming.

Independent University, Bangladesh   *Dhaka, Bangladesh*

GRADUATE TEACHING ASSISTANT – DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING   *May. 2017 – Jun. 2017*

- Academic support to student groups to enhance their understanding of course material.
- Guidelines for related activities and decision making.

BRAC University   *Dhaka, Bangladesh*

UNDERGRADUATE TEACHING ASSISTANT – DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING   *May 2015 – Apr. 2017*

- Appointed **6** times to assist students in learning object-oriented programming (OOP) in Java
- Provided academic feedback and helped students with complex concepts.

Research Experience

Independent University, Bangladesh   *Dhaka, Bangladesh*

RESEARCHER – CENTER FOR COGNITIVE SKILL ENHANCEMENT (CCSE)   *May. 2017 – Dec. 2023*

- Conducted research on flood monitoring using Sentinel-1 remote sensing data.
- Facilitated Advanced Micro-controller Programming Workshop and Yes We Can! Workshop.

Independent University, Bangladesh   *Dhaka, Bangladesh*

GRADUATE RESEARCH ASSISTANT – DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING   *Jul. 2017 – Jun. 2018*

- Worked on the **Big Data, Data Mining with AI** project under the supervision of **Dr. Mahady Hasan**.
- Co-authored **two papers** published in IEEE conferences.

Tech Geeks Ltd.   *Dhaka, Bangladesh*

RESEARCH INTERN – RESEARCH & DEVELOPMENT   *Sep. 2015 – Sep. 2016*

- Designed and implemented a **Hand Sign to Text Converter** for improved accessibility using Java to aid individuals with hearing impairments.
- Recognized as the **Best Intern** for outstanding performance and contributions.

Grants & Funds

2024	**Development and Analysis of a Comprehensive Sorting Algorithm Library for Enhanced Computational Efficiency**, **Principal Investigator**, Sponsored Research Projects 2024 - 2025, Project Identification No. 2024-SETS-06	*IUB*
2024	**Unveiling the Linguistic Diversity of Bangla: Enhanced Dialect Detection through AI and Machine Learning Techniques**, **Principal Investigator**, VC's Research Fund 2024 - 2025, Project Identification No. VCRF-SETS:24-013	*IUB*
2022	**Application of Biomedical Signal Processing, Analysis, and Classification to Identify the Biomarkers of Stroke for Early Prediction and Post-Stroke Recovery**, **Co-Principal Investigator**, Sponsored Research Projects 2022 - 2023, Project Identification No. 2022-SETS-07	*IUB*

Selected Publications

2024	**Advancements in Bangla Speech Emotion Recognition: A Deep Learning Approach with Cross-Lingual Validation**, Alam, K., Bhuiyan, M.H., Hossain, M.J., Monir, M.F., **Khaled, M.A.B.**, 2024 IEEE 99th Vehicular Technology Conference (VTC2024-Spring), Singapore, pp. 1–5	*IEEE*
2022	**Multiclass Classification for GvHD Prognosis Prior to Allogeneic Stem Cell Transplantation**, **Khaled, M.A.B.**, Hossain, M.J., Rahman, S., Ferdaus, J., 36th Australasian Joint Conference on Artificial Intelligence (AJCAI), AI 2022: Advances in Artificial Intelligence, pp. 487–500	*Springer*
2022	**Liver Disease Classification by Pruning Data Dependency Utilizing Ensemble Learning Based Feature Selection**, **Khaled, M.A.B.**, Rahman, M.M., Quaiyum, M.G., Akter, S., 36th Australasian Joint Conference on Artificial Intelligence (AJCAI), AI 2022: Advances in Artificial Intelligence, pp. 614–627	*Springer*
2019	**Word Sense Disambiguation of Bengali Words using FP-Growth Algorithm**, M. S. Kaysar, **M. A. B. Khaled**, M. Hasan, and M. I. Khan, International Conference on Electrical, Computer and Communication Engineering (ECCE), pp. 1-5	*IEEE*
2018	**Detecting Sex From Handwritten Examples**, S. Saha, **M. A. B. Khaled**, M. S. Islam, N. S. Puja, and M. Hasan, IEEE International Conference on System, Computation, Automation and Networking (ICSCA), pp. 1–7.	*IEEE*

Accepted or Research In Progress Papers

Conceptual Design and Evaluation Plan of a Mobile Relational Agent for Dengue Management in Bangladesh, **Khaled, M.A.B.**, Yasmin, S., Al Haque, A. S. M. F., Islam, A., Ahmed, E., Moalla Chaudhry, *Springer*
2024 B., Research-in-Progress paper [Paper 66] presented at the 19th International Conference on Design Science Research in Information Systems and Technology (DESRIST), University West, Trollhättan, Sweden

Relational Agent-Enabled mHealth Platform for Addressing Dengue Crisis in Bangladesh, **Khaled,** *IEEE*
2024 **M.A.B.**, Alam, K., Rahman, M., Bhuiyan, J., Accepted for poster presentation at 2024 IEEE Engineering in Medicine & Biology Society (EMBC), Annual International Conference

Honors & Awards

2016	**VC's Award for Academic Excellence**, Spring Semester	*BRAC University*
2016	**Best Intern Award**, Research & Development	*Tech Geeks Ltd.*
2015	**VC's Award for Academic Excellence**, Fall Semester	*BRAC University*
2015	**VC's Award for Academic Excellence**, Spring Semester	*BRAC University*
2015	**Top Ten Contestant**, Programming Contest	*BRAC IT*
2014	**VC's Award for Academic Excellence**, Fall Semester	*BRAC University*
2014	**VC's Award for Academic Excellence**, Summer Semester	*BRAC University*
2014	**VC's Award for Academic Excellence**, Spring Semester	*BRAC University*

Skills

Programming & Frameworks	Python, TensorFlow, Keras, Scikit-learn, Java, C/C++, Latex
Data Analysis & Visualization	NumPy, Pandas, Scikit-Learn Matplotlib, Seaborn, SciPy
Tools & Software	MATLAB, QGIS, SNAP, Mathematica, Arduino IDE, Android Studio, Google Colab, Jupyter Notebook
Teaching & Pedagogy	Classroom Management, Curriculum Development, Mentorship
Project Management	Research Proposal Writing, Grant Management, Team Leadership
Soft Skills	Problem-solving, Critical Thinking, Leadership, Teamwork
Languages	Bengali (Native) , English (IELTS Band: **7.0**) , Hindi (Conversational)

Certifications & Training

Board of Accreditation for Engineering and Technical Education (BAETE) — *IEB*

HANDS-ON ORIENTATION ON OUTCOMES-BASED EDUCATION (OBE) — *Feb. 2024*

• Participated in practical sessions on **implementing OBE frameworks** in engineering education.

Center for Computational and Data Sciences (CCSD) — *IUB*

INSIDER'S GUIDE TO SYSTEMATIC LITERATURE REVIEW & RESEARCH PAPER WRITING: A HANDS-ON WORKSHOP — *Jan. 2024*

• Learned **advanced techniques** in conducting systematic literature reviews and academic writing.

United International University, BAETE & IEEE Computer Society Bangladesh Chapter — *UIU*

BAETE ACCREDITATION FOR COMPUTER SCIENCE AND ENGINEERING PROGRAMS — *Oct. 2023*

• Acquired knowledge of **BAETE accreditation criteria** and its application in academic programs.

Board of Accreditation for Engineering and Technical Education (BAETE) — *IEB*

OUTCOMES-BASED EDUCATION (OBE) — *Jun. 2019*

• Received detailed training on **implementing and managing OBE** in higher education.

Bangladesh Telecommunication Regulatory Commission (BTRC) — *IEB*

AMATEUR RADIO SERVICE CERTIFICATION EXAM, SERIAL NO. 083/17097 — *Dec. 2017*

• Certified for operating **amateur radio services** in Bangladesh.

Committees & Affiliations

IEEE Computer Society Student Branch (IUB)
FACULTY MENTOR

IUB

Mar. 2019 – Present

- Mentored students and guided them through various club activities.
- Organized and managed **tech fests**, including the **Intra IUB Tech Fest**.

Department of Computer Science & Engineering
JUDGE & ORGANIZER – INTRA IUB TECH FEST

IUB

Apr. 2019 – Dec. 2022

- Judged and organized **5 Tech Fest events** spanning Spring, Summer, and Autumn semesters.
- Coordinated event logistics and ensured active student participation.

National Hackathon on Frontier Technologies, iDEA
MENTOR

IUB

Feb. 2020

- Mentored participants, providing guidance on innovation and design.
- Supported teams during the hackathon by offering feedback and technical insights.

Extracurricular Activities

BRAC University Computer Club (BUCC)
VICE PRESIDENT

BRACU

Jun. 2016 – Jun. 2017

- Led multiple committees and coordinated between executive members and club members.
- Managed a website project for the **Bangladesh Business & Disability Network (BBDN)**

BRAC University Computer Club (BUCC)
ASSISTANT DIRECTOR – PRESS RELEASE (PR)

BRACU

Nov. 2015 – Jun. 2016

- Worked in writing and publishing press materials to promote club activities and events.
- Participated in coverage of diverse club activities for better documentation.

Grameenphone
CAMPUS AMBASSADOR – GAME JAM, WHITE BOARD

BRACU

Jul. 2017 – Jul. 2017

- Promoted the Game Jam event and represented it at BRAC University to engage students.
- Facilitated student participation and collaboration with event organizers.

Google Developer Group Dhaka
CAMPUS AMBASSADOR – GDG DHAKA

BRACU

Jun. 2016 – Jun. 2017

- Promoted GDG Dhaka and facilitated student participation in events.
- Led workshops on **Firebase Integration** (Aug. 2016) and **TensorFlow Basics** (Jun. 2016).

Seminars & Workshops

Institutional Quality Assurance Cell (IQAC)
PARTICIPANT – PREPARATION OF SELF-ASSESSMENT REPORT (SAR) FOR BAC ACCREDITATION WORKSHOP

IUB

Oct. 2024

- Participated in a workshop on SAR preparation, course file management, and accreditation requirements for PSAC members.

Automate Your Day with Python Workshops
INSTRUCTOR

IUB

Aut. 2023 & Spr. 2024

- Conducted hands-on workshops to teach Python automation techniques to students and faculty members.