MD. JAHIDUL HASAN

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SUMMARY

Full-stack software engineer with applied AI/ML research experience, holding a BSc in Computer Science from BRAC University. Built and shipped production web platforms (Next.js/React/Node.js/MongoDB) and authored a deep learning thesis on medical image segmentation. Combines hands-on engineering with strong technical communication from current work in content strategy at Markapture Limited. Seeking full-stack or AI/ML engineering roles.

TECHNICAL SKILLS

Languages: Python, JavaScript

Full-Stack & Backend: Next.js, React, Node.js, MongoDB, MySQL, RESTful APIs

AI/ML: Self-Supervised Learning, Masked Image Modeling, Multimodal Fusion, PyTorch/Python ML stack

Tools & Platforms: Git/GitHub, VS Code, Vercel, Google Colab, Kaggle, Postman, LaTeX

Also: OpenGL & 3D Graphics Programming, Assembly Language (systems programming), Blender (3D modeling, Python scripting – in progress)

RESEARCH PUBLICATION

MIM-HeMIS: Self-Supervised Masked Image Modeling with Heterogeneous Modality Fusion for Brain Tumor Segmentation under Missing MRI Modalities **2026**
First Author, Undergraduate Thesis, Dept. of CSE, BRAC University
Supervisor: Md. Sabbir Ahmed | Thesis repository

- Coordinated a five-person team and designed a hybrid CNN–Transformer framework combining masked image modeling pretraining with HeMIS modality fusion for brain tumor segmentation.
- Evaluated the model on BraTS 2021 across all 15 non-empty MRI modality combinations; achieved 90.2% Whole Tumor Dice with all four modalities, using one model for different input combinations.
- Thesis approved by BRAC University and archived in its institutional repository; manuscript in preparation for submission to an IEEE journal.

PROJECTS

F1 Pitwall Analytics | *Next.js, React, Node.js, MongoDB* | GitHub | Live 2026

- Built a full-stack Formula 1 platform with race dashboards, telemetry views, authenticated accounts, and personalized watchlists.
- Implemented session-aware refresh intervals, including 15-second polling during live sessions, and 24-hour telemetry caching for completed sessions.
- Designed a responsive interface and deployed the application on Vercel, achieving a Lighthouse performance score of 95+.

SDS Chemical Extractor | *Python, pdfplumber, pandas, openpyxl* | GitHub | Live 2025

- Built a Python tool for a textile client to extract product names, chemical names, and CAS numbers from safety data sheet PDFs into structured Excel workbooks.
- Implemented batch processing with table extraction, a text fallback, and per-file error reporting; supported browser uploads and command-line use.

TripBloom | *JavaScript, Web APIs, Routing* | GitHub 2025

- Built a travel-planning app integrating real-time geolocation APIs and a route-optimization algorithm to speed up trip planning.

Singularity-Wars | *Python, OpenGL, 3D Graphics* | GitHub 2025

- Built a 3D space-combat game engine from scratch in OpenGL with real-time lighting, texturing, and physics simulation; shipped a packaged, cross-platform (Windows/macOS) release.

ATM Simulator | *Assembly Language, Microprocessor Programming* 2026

- Implemented PIN verification, balance inquiries, deposits, and withdrawals in an Assembly-based ATM simulation.

Professional Experience

Digital Content & Communications Executive 2026 – Present
Markapture Limited *Waltham, UK*

- Authored a full-length eBook for SkillBridge Consultants as a client-facing lead-generation asset.
- Own content strategy and brand messaging across LinkedIn, Facebook, and Instagram.
- Translate technical/product concepts into audience-facing content, applying engineering background to communication work
- Track content analytics across channels and manage lead email outreach, applying basic data handling to inform content decisions

Education

BRAC University Dhaka, Bangladesh
Bachelor of Science in Computer Science *2022 – 2026 (Graduated)*

Ispahani Public School & College Cumilla, Bangladesh
Higher Secondary Certificate (HSC) - Science, GPA: 5.00/5.00 *2018 – 2020*

Ispahani Public School & College Cumilla, Bangladesh
Secondary School Certificate (SSC) - Science, GPA: 5.00/5.00 *2016 – 2018*

Leadership Experience

Assistant Director Dec 2024 – Feb 2026
BRAC University Computer Club (BUCC) *Dhaka, Bangladesh*

- Led operations across 7 departments serving 1400+ members, managing budgets, sponsor relationships, and vendor logistics
- Organized TechConnect Career Fair, connecting 1400+ students with 40+ tech companies including industry leaders

Assistant Director Jan 2024 – Jan 2026
BRAC University Leadership Development Forum (BULDF) *Dhaka, Bangladesh*

- Orchestrated 10+ large-scale events annually, including Freshers Orientation for 1000+ attendees
- Led Mental Health Awareness initiatives, partnering with external organizations including It's Humanity Foundation

Academic Achievements

General Scholarship – Higher Secondary Certificate (HSC) 2020

- Awarded government scholarship for outstanding academic performance

References

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