

Alif Al Hasan

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Cleveland, Ohio - 44106, USA

EDUCATION

- **Ph.D. in Computer Sciencee** August 2025 - Present
Case Western Reserve University Cleveland, Ohio, USA
 - CGPA: 4.00/4.00
 - Advisor: Dr. Sumon Biswas
- **M.S. in Computer Science and Engineering** July 2023 - December 2024
Jahangirnagar University Dhaka, Bangladesh
 - CGPA: 3.85/4.00
- **B.S. in Computer Science and Engineering** February 2018 - June 2023
Jahangirnagar University Dhaka, Bangladesh
 - CGPA: 3.63/4.00

RESEARCH EXPERIENCE

- **Graduate Research Assistant** August 2025 - Present
Case Western Reserve University, Cleveland, OH, USA Advisor: Dr. Sumon Biswas
 - Conducting research at the intersection of Software Engineering and AI, specifically addressing robustness and safety of AI for Software Engineering.
- **Remote Research Assistant** May 2024 – July 2025
Missouri University of Science and Technology, Rolla, MO, USA Advisor: Dr. Mia Mohammad Imran
 - **Learning Programming in Informal Space [1]**: Led an LLM-assisted annotation pipeline to model novice emotions in online communities, identifying key affective states and proposing five categories of affect-aware support.
 - **CDDRefactorER**: Developed an AI-guided refactoring framework benchmarked on MBPP, achieving 71% reduction in functional errors and a 17% decrease in cognitive load to enhance novice comprehension.
- **Remote Research Intern** January 2025 – February 2025
University of Maryland, Baltimore County, Baltimore, MD, USA Advisor: Dr. Tarannum Shaila Zaman
 - **LLPut [2]**: Conducted the evaluation of LLMs for extracting failure-inducing inputs by constructing a benchmark of 206 verified Linux *coreutils* cases and comparing BERT against open-source models (LLaMA, Qwen) using BLEU-based metrics.
- **Research Assistant** November 2023 - July 2024
Jahangirnagar University, Dhaka, Bangladesh Advisor: Dr. Musfique Anwar
 - **SEAGET [3]**: Proposed a Seasonal and Active hours-guided Graph-Enhanced Transformer that integrates temporal dynamics and operational constraints, outperforming state-of-the-art baselines with a **13.7% improvement in Acc@1**.

TEACHING EXPERIENCE

- **Graduate Teaching Assistant** August 2025 - December 2025
Case Western Reserve University, Cleveland, OH, USA CSDS 325/425: Computer Networks
 - Supported a class of 65 undergraduate and graduate students, facilitating lab sessions and helping in complex simulation projects.
 - Managed course logistics including grading, discussion facilitation, and providing one-on-one academic support to enhance student comprehension.
- **Teaching Assistant** December 2021 - April 2024
Jahangirnagar University, Dhaka, Bangladesh Data Structures and Algorithms
 - Conducted extra-curricular training sessions for a cohort of 50 students on Data Structures and Algorithms, guiding them through advanced problem-solving strategies.

- Mentored university teams for national-level programming contests, providing personalized feedback and debugging optimization techniques.

• Competitive Programming Mentor

Netrokona University, Netrokona, Bangladesh

August 2023 - December 2023

Data Structures and Algorithms

- Designed and executed a weekly curriculum for 30 students, focusing on algorithmic problem-solving to prepare them for ICPC and IUPC contests.
- Delivered personalized mentorship and code review, significantly improving students' debugging skills and contest readiness.

PUBLICATIONS






C=CONFERENCE, J=JOURNAL, W=WORKSHOP

- [C.1] [ICSE-26] [Rank=A*] Alif Al Hasan, Subarna Saha, and Mia Mohammad Imran. "Learning Programming in Informal Spaces: Using Emotion as a Lens to Understand Novice Struggles on r/learnprogramming". In: *arXiv preprint arXiv:2511.22789* (2025)
- [J.1] Alif Al Hasan and Md. Musfique Anwar. "SEAGET: Seasonal and active hours guided graph enhanced transformer for the next POI recommendation". In: *Array* 26 (2025), p. 100385. ISSN: 2590-0056. DOI: <https://doi.org/10.1016/j.array.2025.100385>
- [W.1] Alif Al Hasan et al. "LLPut: Investigating Large Language Models for Bug Report-Based Input Generation". In: *Proceedings of the 33rd ACM International Conference on the Foundations of Software Engineering*. FSE Companion '25. Trondheim, Norway, 2025, pp. 1652–1659. DOI: [10.1145/3696630.3728701](https://doi.org/10.1145/3696630.3728701)

PROBLEM SOLVING EXCELLENCE

- **Quantitative Aptitude: GRE Quantitative Reasoning: 170/170** (Perfect Score).
- **Algorithmic Profile:** Codeforces Max: **1931** (Top 2%); CodeChef Max: **2084** (Top 2%); Solved **4500+** algorithmic problems across online judges.
- **ICPC Achievements:** Ranked **3rd/165** in ICPC Asia Dhaka Regional '21; **7th/1640** in ICPC Dhaka Preliminary '21; **17th/58** in West Continent Finals '21.
- **National Contests:** Ranked **1st/57** in MBSTU '20; **12th/114** in BUET IUPC '22; **12th/97** in RUET IUPC '22; **14th/105** in AUST IUPC '22.

PROJECTS

- **Fairness Analysis of Text-to-Image Models in Negative Role Depictions** December 2025
Tools: Python, PyTorch, Diffusers, Stable Diffusion, Flux, FairFace 
◦ Led the quantification of T2I bias in negative roles, revealing a ~95% male skew; engineered a FairFace auditing pipeline to measure SPD and Bias Amplification.
- Demonstrated that prompt-based mitigation reduces racial and age bias amplification to near-zero, though gender skew remains persistent across models.
- **Arabic2English: Bidirectional Translation Web App** March 2024
Tools: Gradio, PyTorch, Transformers, CI/CD 
◦ Developed a bidirectional Arabic-English translation web app with a comprehensive **model card** and automated CI/CD deployment pipelines.
- **EPL Top5 Emblem Classifier: Image Recognition** January 2024
Tools: TensorFlow, NumPy, SciPy, Gradio 
◦ Built a web-based Premier League emblem classifier using automated CI/CD workflows, documenting performance in a detailed **model card**.
- **Team Tracker: Activity Visualization App** January 2022 - April 2022
Tools: Java, Spring Boot, MySQL, RoomDB 
◦ Designed an Android app visualizing team metrics via dynamic charts, integrating RoomDB for local storage and Spring Boot for backend synchronization.
- **Write In: Knowledge Sharing Platform** February 2022 - December 2022
Tools: Node.js, MongoDB, EJS, Bootstrap 
◦ Engineered a scalable full-stack blogging platform using OOAD principles, featuring an intuitive UI for seamless content sharing.

HONORS AND AWARDS

- **Government Scholarship for Academic Excellence**

October 2025

Ministry of Education, Bangladesh

- Awarded by the Government of Bangladesh for demonstrating outstanding academic performance at Jahangirnagar University.

- **National Science and Technology (NST) Fellowship**

February 2025

Ministry of Science & Technology, Bangladesh

- Received a competitive fellowship grant of \$700 to support M.Sc. thesis research, recognizing scientific research potential.

- **Dean's Scholarship**

February 2018 – December 2024

Jahangirnagar University

- Secured the prestigious Dean's Scholarship **five times** during B.Sc. and M.Sc. tenure for maintaining exceptional academic standing.

VOLUNTEER EXPERIENCE

- **Instructor: Workshop on CP Strategies**

November 2024

Bangladesh Digital University

- Delivered a session on contest tactics and problem-solving techniques to **over 90 participants**, organizing 2 contests for hands-on practice.

- **Judge, Organizer & Trainer: CodeElevate Camp 2023**

September 2023

Jahangirnagar University



- Conducted a technical session on graph algorithms for **100+ participants** and authored a problem for the main contest round.

- **Judge & Organizer: Brain Muscle Checking Contest 2022**

January 2022

Jahangirnagar University



- Served as a problem setter, authoring 2 algorithmic challenges for the main round of the competition.