

# Alif Al Hasan

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 Alif Al Hasan |  Alif Al Hasan |  alifalhasan

Cleveland, Ohio - 44106, USA

## EDUCATION

### • Ph.D. in Computer Sciencee

- Case Western Reserve University*  
◦ CGPA: 4.00 / 4.00  
◦ Advisor: Dr. Sumon Biswas

August 2025 - Present

Cleveland, Ohio, USA

### • M.S. in Computer Science and Engineering

- Jahangirnagar University*  
◦ CGPA: 3.85 / 4.00

July 2023 - December 2024

Dhaka, Bangladesh

### • B.S. in Computer Science and Engineering

- Jahangirnagar University*  
◦ CGPA: 3.63 / 4.00

February 2018 - June 2023

Dhaka, Bangladesh

## RESEARCH EXPERIENCE

### • Graduate Research Assistant

- Case Western Reserve University, Cleveland, OH, USA*  
◦ Conducting research at the intersection of Software Engineering and AI, specifically addressing robustness and safety of AI for Software Engineering.

August 2025 - Present

Advisor: Dr. Sumon Biswas

### • Remote Research Assistant

- Missouri University of Science and Technology, Rolla, MO, USA*  
◦ **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.

May 2024 – July 2025

Advisor: Dr. Mia Mohammad Imran

### • Remote Research Intern

- University of Maryland, Baltimore County, Baltimore, MD, USA*  
◦ **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.

January 2025 – February 2025

Advisor: Dr. Tarannum Shaila Zaman

### • Research Assistant

- Jahangirnagar University, Dhaka, Bangladesh*  
◦ **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**.

November 2023 - July 2024

Advisor: Dr. Musfique Anwar

## TEACHING EXPERIENCE

### • Graduate Teaching Assistant

- Case Western Reserve University, Cleveland, OH, USA*  
◦ 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.

August 2025 - December 2025

CSDS 325/425: Computer Networks

### • Teaching Assistant

- Jahangirnagar University, Dhaka, Bangladesh*  
◦ Conducted extra-curricular training sessions for a cohort of 50 students on Data Structures and Algorithms, guiding them through advanced problem-solving strategies.

December 2021 - April 2024

Data Structures and Algorithms

- 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. Musfiq 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

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- **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

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- **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.