

# S M A NAHIAN

☎ +1 (857) 331-8436 ✉ [nahian@mit.edu](mailto:nahian@mit.edu) [in SMANahian](#) [SMANahian](#) [smanahian.com](https://smanahian.com)

## Education

### Massachusetts Institute of Technology

August 2025 – May 2029

*Bachelor of Science in Computer Science and Engineering (GPA: 5.0/5.0)*

*Massachusetts, USA*

*Relevant Courses:* Deep Learning, Reinforcement Learning, Distributed Computer Systems, Topics in Multiagent Learning, Dynamic Computer Language Engineering (Compilers), Randomized Algorithms, Computation Structures

## Skills

**Languages:** Python, Rust, C, C++, JavaScript, Go, Java, PHP

**Frameworks & Tools:** Verus, Linux, Git, GitHub Actions, vLLM, Flask, MongoDB, CodeIgniter

**ML/AI:** LLMs, LLM Evaluation & Benchmarking, Explanation Faithfulness, AI Safety

## Experience

### MIT Computer Science and Artificial Intelligence Laboratory (CSAIL)

June 2026 – August 2026

*Undergraduate Research Assistant, UROP*

*Massachusetts, USA*

- Built a model-agnostic, inference-time wrapper constraining LLM responses to their stated explanations.
- Tripled causal faithfulness ( $0.27 \rightarrow 0.87$ ), beating the prompting baseline in all 5 model-benchmark settings; proved perfect on hint verbalization, and composed with factored decomposition for further gains.
- Co-first author on the resulting [paper](#), accepted at Trustworthy AI for Good (AI4GOOD) @ NeurIPS 2026.

### Beneficial AI Foundation

September 2025 – May 2026

*Software Engineer, UROP*

*Massachusetts, USA*

- Formally verified 6 machine-checked scalar/field functions and 35 supporting number-theory lemmas for [Dalek-Lite](#), a Verus/Rust verification of curve25519-dalek (used by Signal and Tor); all 8 PRs merged.

### UC Irvine

October 2023 – August 2025

*Research Collaborator — Prof. Wayne Hayes' Group*

*Irvine, California, USA (Remote)*

- Designed two parallelizable graphlet-sampling methods (NBE, EBE) for [BLANT](#) and cut MCMC's slowest precomputation from 3.2 hours to 5.4 seconds ( $2,139\times$ ); first author on the resulting PLOS ONE submission.
- Co-authored [Patterns](#) 7(7):101586 on graphlet link prediction, beating 13 baselines on 1M-node networks.

### Gonitzoggo

August 2023 – July 2025

*Software Engineering Intern*

*Bangladesh*

- Earned a developer role by privately reporting a major security vulnerability; built PHP/CodeIgniter features including self-service draft-ownership transfer, public author credits, and in-browser image cropping.

## Selected Projects — more on [GitHub](#)

### Chess Analyzer | Python, FastAPI, SQLite, JavaScript

June 2025 – April 2026

- Built a local-first app that mines recurring opening mistakes from Lichess/Chess.com games with Stockfish.

### BeatVote | Python, Flask, MongoDB, Chrome Extension

September 2025

- Built a live collaborative music queue at HackMIT 2025 with a YouTube API proxy and browser extension.

## Achievements

**Mathematical Olympiads:** Putnam Math Competition Top 250 (2025); International Mathematical Olympiad Bronze Medal (2023, 2024) and Honorable Mention (2022); Asia Pacific Mathematics Olympiad Silver (2022, 2023) and Bronze (2024)

**Competitive Programming:** Asia Pacific Informatics Olympiad Finalist (2024); ICPC Asia Dhaka Regional 6th Position as a guest high school team (2023); Bangladesh Olympiad in Informatics Bronze Medal (2023, 2024); Master rank at CodeForces

## Leadership & Service

### Bangladesh Mathematical Olympiad and Bangladesh Informatics Olympiad

2025 – Present

*Problem Setter, Mentor and Academic Team Member*

*Bangladesh*

- Led the mentor team at training camps for Bangladesh's 6-student IMO team: 1 silver, 8 bronze in 2025–26.
- Authored competition problems for the national mathematics and informatics olympiads.

### Gonitkonya — Bangladesh Girls' Mathematics Foundation

2022 – Present

*Core Academic Team Member*

*Bangladesh*

- Trained Bangladesh's 4-student EGMO teams to 2 silver and 7 bronze since 2022; led their camps in 2025–26.