# Shaikh Nahian

Github | LinkedIn | Personal Website

## Research Interests

- AI-Driven Software Quality Assurance
- Metamorphic Testing
- Cybersecurity in AI Systems
- AI for Medical Imaging & Computational Biomarkers
- Efficient AI
- Human-Aligned & Responsible AI

## Education

**Chittagong University of Engineering & Technology** 2018 - 2023

– BSc in Computer Science and Engineering (GPA: 3.15/4.0)

## Test Scores

**IELTS Academic** Score: 8.5 (Reading: 9, Listening: 8.5, Speaking: 8, Writing: 7.5)

## Publications

**Shaikh Nahian** and Mohammed Moshiul Hoque (2025). "Deep Autoencoder Based Protection for Malware Detection Models from Adversarially Perturbed Data". Presented at 4th IEEE International Conference on Signal Processing, Information, Communication and Systems (SPICSCON) 2025; Proceedings accepted and forthcoming in IEEE Xplore.

## Professional Experience

**Software Engineer, QA at Therap(BD) Ltd.** February 2024 - present

– I test web applications through manual and Playwright-based automation, validate APIs using Postman, and manage defects throughout their lifecycle. I work closely with developers to reproduce issues, mentor junior testers, and ensure features meet HIPAA security and privacy requirements while safeguarding PHI.

## Projects

- **LogShark: Log Analysis & Monitoring Tool** *GeminiAPI, LangChain, WebSocket, NodeJS* [GitHub]
  - Developed a tool to analyze uploaded log files or stream live logs over SSH.
  - Enabled natural-language queries using LLMs for real-time insights to assist testers.
- **MetaTestLab** *Python, PyTest, Custom MT framework* [GitHub]
  - Developed a metamorphic testing framework for oracle-free testing of black-box systems, with emphasis on ML models.
  - Designed and evaluated invariance, change-sensitive, and purity-based metamorphic relations to detect faults.

• **Deep Autoencoder-Based Protection for Malware Detection Models from Adversarially Perturbed Data** *Python, TensorFlow, Keras, Pandas, ART* [GitHub]

– Built an autoencoder-based defense for ML/DL malware classifiers.

– Addressed evasion attacks created from adversarial malware samples.

• **PLDC WebApp** *ReactJs, FastAPI, TensorFlow, CNN* [GitHub]

– Developed a CNN-based potato leaf disease classifier and deployed it as a web application.

– Implemented ReactJS and FastAPI for real-time image-based diagnosis.

• **ChatterBox** *Javascript, PHP, MySQL, AJAX, Bootstrap* [GitHub]

– Secure instant messaging app with credentials-based authentication and real-time messaging.

– Added user search and active/inactive status tracking features.

## Non-Academic Service

**CUET Debating Society, Vice President** June 2022 – June 2023

– Part of the management committee for 16th Inter Departmental Debate Competition- 2022.
– Part of the management committee for Women's Day Debate Tournament- 2023.
– Organized Freshers Reception program welcoming varsity freshmen.

**CUET Computer Club, Assistant General Secretary** August 2022 – August 2023

– Part of the management committee for CUET Intra University Programming Contest- 2023.
– Organized numerous online and offline sessions on Competitive Programming, Natural Language Processing, and Research Methodologies.
– Organized Freshers Reception program welcoming varsity freshmen.

## Skills

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|---|---|
| **Research Methods** | Experimentation, Problem Solving, Analysis, Data Management, Survey, Interviewing |
| **Web & Mobile Testing** | Manual Testing, Test Automation, API Testing, Regression, Integration, STLC, Risk-Based Testing |
| **Tools** | Playwright, Selenium, Postman, Newman, Jira, Splunk |
| **Programming Languages** | Python, C++, JavaScript, Java |
| **Libraries** | Node.js, React, TensorFlow, Pandas |
| **Databases** | MySQL, MongoDB, Oracle |
| **CI/CD & VCS** | Git, Jenkins, GitHub Actions |
| **Languages** | Bangla (native), English (C2 Level) |