

# JAID MONWAR CHOWDHURY

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## EDUCATION

**Bangladesh University of Engineering and Technology (BUET)**

February 2020 – March 2025

*Bachelor of Science in Computer Science and Engineering*

## RESEARCH EXPERIENCE

**Research Internship, IntelligentCATLab, University of Illinois Urbana-Champaign** June 2025 – Present

*Remote Research Intern advised by Prof. Reyhaneh Jabbarvand*

- Co-developing a framework to generate unit tests across multiple programming languages (C, Java, and Python).
- Designed tools and workflows for enhanced reliability and maximise code coverage.
- Wrote a modular component to provide the agent with multi-language parsing and generation capabilities.
- Implemented a semantic analysis module to deepen the agent's program understanding.
- Conducted evaluations of scalability, reliability and test coverage enhancements.
- Co-authoring a paper on the framework, preparing to-be submitted at **ISSTA 2026**.

**RIC-BUET**

March 2025 – Present

*Research Assistant advised by Prof. Anindya Iqbal*

- Co-developed an agentic framework that translates natural language test cases into executable Web UI test scripts.
- Developed the Web Agent architecture to enable autonomous Web UI traversal.
- Implemented and deployed the end-to-end backend and frontend infrastructure for the research framework.
- Curated a dataset of natural language test cases from real-world websites for evaluation.
- Conducted evaluations of maintainability, robustness, and quality of the scripts against industry-standard tools.
- Co-first authored a paper soon to-be submitted at **FSE 2026**.

## WORK EXPERIENCE

**Yobo AI, Canada**

June 2024 – Present

*Remote Full Stack Engineer*

- Co-developed an AI-powered phone-call agent to automate task-oriented customer interactions for restaurants.
- Led the design of a multi-step reasoning pipeline that dynamically retrieves and injects relevant menu data into the LLM's context, enabling queries on large-scale knowledge bases.
- Designed prompts and functions for intelligent tool calling.
- Contributed to the development of a dynamic VAD system for a seamless customer experience.

## ACHIEVEMENTS AND AWARDS

**RISE Research Grant**

2023

*Bangladesh University of Engineering and Technology*

- Awarded the RISE Research Grant for outstanding research contributions and potential.

**Dean's List Award, Merit Scholarship, and Admission Test Scholarship**

2019 – 2024

*Bangladesh University of Engineering and Technology*

- Awarded after each term for academic excellence.

**Second Runner-Up, DUITs IT Fest Hackathon**

2014

*Dhaka University IT Society*

- Secured the second runner-up position for developing EmerApp.

## PROJECTS (SELECTED)

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<b>Paging Framework and Scheduler for xv6 Operating System</b> <ul style="list-style-type: none"><li>Implemented a simple paging framework and a lottery scheduler for the xv6 OS.</li></ul>	2023
<b>QCC - Tiny C Compiler</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>Built a tiny C compiler using C++ that translates C code into assembly code.</li></ul>	2022
<b>4-Bit MIPS CPU</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>Built hardware and a virtual simulation for the CPU pipeline.</li></ul>	2022
<b>Ray-Tracing in OpenGL</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>Implemented rasterization and a ray-tracing pipeline in C++ and OpenGL.</li></ul>	2023
<b>CryptoSys - Basic Crypto-System for Secured Communication</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>Implemented a basic crypto-system utilizing AES and Diffie-Hellman algorithm.</li></ul>	2023
<b>HTTP Server</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>Built a multi-threaded HTTP server using Java and socket programming.</li></ul>	2022
<b>Microcontroller based Automated Traffic Signaling System</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>Built an automated traffic signaling system with Arduino.</li></ul>	2022
<b>Gradery - An Online CMS</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>Developed an online course management system (CMS) for BUET CSE.</li></ul>	2022
<b>KagOJ - An Online Judge</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>Co-developed an online judge platform for coding practice and contests.</li></ul>	2023
<b>Bounce Game for Windows</b>   <a href="#">GitHub</a> <ul style="list-style-type: none"><li>Built the desktop version of the popular mobile game, Bounce.</li></ul>	2019
<b>EmerApp - Helper in Emergency</b> <ul style="list-style-type: none"><li>Developed an Android app to assist users during emergencies.</li></ul>	2014

## ACTIVITIES

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<b>Director of Technology, BUET Cyber-Security Club</b> <i>Bangladesh University of Engineering and Technology</i> <ul style="list-style-type: none"><li>Organized workshops on various cyber-security topics and arranged Capture-the-Flag (CTF) competitions.</li></ul>	2023 – 2024
<b>Student Mentor</b> <i>Bangladesh University of Engineering and Technology</i> <ul style="list-style-type: none"><li>Mentored several undergraduate students in research and university projects.</li><li>Mentored around 20 high school students in informatics, physics and mathematical olympiads.</li></ul>	2019 – 2024

## LANGUAGES

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**English:** IELTS 8.0 (Reading: 8.5, Listening: 8.5, Speaking: 8.0, Writing: 7.5)  
**Bengali:** Native Proficiency

## SKILLS

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**Programming:** C/C++, C#, Bash, Java, Python, SQL, JavaScript, HTML/CSS, R,  $\text{\LaTeX}$ , Kernel Hacking and eBPF  
**Frameworks:** Node.js, Express.js, React  
**Miscellaneous:** Vim, Emacs, Git, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, pandas, NumPy, Matplotlib

## REFERENCE

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**Ryan Huang**

*Associate Professor, Computer Science and Engineering*

University of Michigan, Ann Arbor

*ryanph@umich.edu*

**Anindya Iqbal**

*Professor, Computer Science and Engineering*

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**Sukarna Barua**

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