

# SHAHRIARE MAHMUD SAKIB

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## EDUCATION

### **B.Sc. in Civil Engineering**

Bangladesh University of Engineering and Technology (BUET)

**Emphases:** *Structural Engineering* (Major), *Transportation Engineering* (Minor)

Awarded: March 2025

Overall GPA: **3.89/4.0**

**Top 10% of Class**

### **Higher Secondary Certificate (HSC)**

Major General Mahmudul Hasan Adarsha College, Tangail, Bangladesh.

Awarded: April 2019

Overall GPA: **5.0/5.0**

## PUBLICATION

### **Journal Paper**

- **Sakib, S.M.** & Amanat, K.M. (In preparation). *Nonlinear FE Investigation on Behavior of Cold-Formed Stainless-Steel Columns Subject to Cyclic Loading*. Manuscript in preparation for submission to the Thin-Walled Structures: Journal for Civil and Structural Engineering, published by Elsevier.

### **Conference Proceedings**

- **Sakib, S.M.** & Joy, J.A. (2026). *Experimental and Numerical Investigation of ECC-jacketed Concrete-filled Steel Tube Columns under Seismic Loading using Shake Table*. Abstract submitted at the International Conference on Civil Engineering (ICCE 2026), Dhaka, Bangladesh.
- **Sakib, S.M.** & Amanat, K.M. (2025). *Numerical Simulation of Cyclic Behavior of Cold Formed Stainless-steel RHS Columns Subject to Cyclic Bending*. Accepted for presentation at the International Conference on Civil Engineering Research and Innovations (ICCEI 2025), Rajshahi, Bangladesh.

## RESEARCH EXPERIENCE

### **Undergraduate Thesis**

(Nov. 2023- Mar. 2025)

Title: “**Nonlinear FE Investigation on Behavior of Cold-Formed Stainless-Steel Columns Subject to Cyclic Loading**”

Supervisor: Professor Dr. Khan Mahmud Amanat, Department of Civil Engineering, BUET.

- Modeled stainless steel HSS columns in ANSYS (APDL) under compressive and cyclic bending loads.
- Applied Chaboche, bilinear kinematic, and nonlinear isotropic hardening models to capture nonlinear behavior.
- Validated results against three experimental studies.
- Investigated hysteresis response and ultimate strength of cold-formed SS thin-walled column sections under varied geometric and loading parameters.

## RESEARCH INTERESTS

- Structural Engineering
- Experimental and Nonlinear Numerical Analysis.
- Structural Dynamics and Structural Health Monitoring.
- Seismic Performance of Steel and Composite Structures.
- Structural Retrofitting and Resilient Infrastructure Systems.

## RELEVANT COURSEWORKS

*Structural Analysis*

*Dynamics of Structures*

*Design of Steel Structures*

*Design of Concrete Structures I & II*

*Structural Analysis and Design II*

*Introduction to Steel Concrete Composite Structures*

*Pavement Design and Railway Engineering*

*Numerical Methods*

*Principles of Soil Mechanics*

*Foundation Engineering*

*Professional Practices and Communication*

*Project Planning and Construction Management*

*Socio-economic Aspects of Development Projects*

*Pavement Management, Drainage and Airport*

## ACADEMIC PROJECTS

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### **Capstone Project**

(Nov. 2023- Dec. 2024)

Title: “**A Model Solid Waste Management System at Community Level**”

Role: Group leader

Supervisor: Professor Dr. Khan Mahmud Amanat, Professor Dr. Mehedi Ahmed Ansary, Professor Dr. Moazzem Hossain and Professor Dr. Md. Mafizur Rahman, Department of Civil Engineering, BUET.

- Proposed a sustainable municipal waste management project for Lalbag, Dhaka.
- Conducted feasibility study and structural analysis (Revit, SAP2000).
- Designed RCC and steel truss structures for waste processing and recycling.

### **Lab Project**

(Aug. 2022)

Title: “**Structural Response Analysis of Beams under Various Loading Conditions Using MATLAB**”

Role: Group leader

Supervisor: Mohammad Irfan Hossain (Assistant Professor) and Shantanu Paul (Lecturer), Dept. of CE, BUET.

- Developed an academic project using MATLAB with GUI integration for the Final Lab Project of course, CE 206: Engineering Computation Sessional.
- Implemented computational models (e.g. Singular function) to analyze cantilever and simply supported beams under UDL, triangular, and point loads. And, automated generation of axial force, shear force, bending moment, and deflection diagrams using MATLAB vector plotting.

## PROFESSIONAL EXPERIENCE

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### **Lecturer, Department of Civil Engineering**

United International University (UIU)

Dhaka, Bangladesh

(July 2025- Present)

**Member Secretary**, Departmental Laboratory Development Committee, Course Equivalency Committee and Professional Students Chapters Establishment Committee, Dept. of CE, UIU

**Faculty Co-advisor**, ASCE Student Chapter, UIU

## AWARDS & HONOURS

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- *CE Faculty Dean’s list* – Academic year 2019-20, 2020-21, 2021-22, and 2022-23.
- *BUET Academic Merit Scholarship* – July 2022, July 2023.
- *Education Board Scholarship* – 2012-16, and 2019-23.

## SKILLS

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### **Technical Skills**

- **Analysis, Simulation and CAD Software:** ANSYS, SAP2000, ETABS, AutoCAD, Revit
- **Programming Language:** APDL, Python, MATLAB, C/C++
- **Document Preparation:** Microsoft Office (Word, Excel and PowerPoint)

### **Language Proficiency**

- **English:** Overall Band Score is **6.5 (IELTS)**
- **Bengali:** Native

## CO-CURRICULAR ACTIVITIES

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### **Article Writing**

- Published an article named “**Base Isolation: The Revolutionary Measure in Earthquake Protection of Buildings**” at Yearly Magazine-2024 of ASCE Student Chapter, BUET.

### **Participation in Competitions**

- Seismic Challenge. Cennovation: Civil Engineering Competitions, 2023, Islamic University of Technology.
- Seismic Challenge. Ceismic: Civil Engineering Competition, 2023, BUET.
- Bangladesh Mathematical Olympiad, 2019, Tangalil, Bangladesh.
- Science Olympiad, 2019, Bangladesh Academy of Sciences, Dhaka. (District Champion)
- Mathematics and Computer. Creative Talent Quest, 2018, Dhaka. (District Champion)

### **Participation in Seminars/Workshops**

- “Hands-On AI for Smart Appliances: From Sensor Data to Embedded Code”, November 2025, MATLAB EXPO 2025, MathWorks.
- “Soft Skills Development”, December 2022, Directorate of Continuing Education (DCE), BUET.
- “Innovative Nature-Based Technologies for Slope Stabilization, Land Reclamation and Soil Remediation”, February 2023, ASCE Student Chapter, BUET.

### **EXTRA-CURRICULAR ACTIVITIES**

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#### **Club Activities**

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|-----------------------------------------------------------------------|---------|
| • Executive, ASCE Student Chapter, BUET                               | 2024-25 |
| • Member and Volunteer, BUET Innovation & Designing Club (BIDC), BUET | 2022-25 |
| • Member and Volunteer, Debate Club, Sakhipur P.M. Pilot High School  | 2013-17 |

#### **Community Involvement**

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| • Volunteer, BUET Student Community: Participated in the <b>winter clothing distribution</b> for underprivileged communities in Dhaka.                      | 2021-25 |
| • Volunteer, BUET Student Community: Participated in the <b>flood relief fundraising and aid distribution</b> for flood-affected communities in Bangladesh. | 2022-25 |
| • Volunteer, As-Sunnah Foundation: Participated in the 2024 <b>Emergency Disaster Relief Fund</b> and flood response initiatives.                           | 2024    |

#### **Educational Contents**

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| • Educational video contents created and published at YouTube.<br>Channel name: <a href="#">SMS' Classroom</a> | 2022-26 |
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### **SELECTED CERTIFICATION**

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|------------------------------------------------------------------------------|------------------------------------------------------|
| • <b>Python Logic &amp; Flow</b><br>Coddy                                    | June 2026<br>Credential ID: 7mAz3F-python-C8r1xh     |
| • <b>Python Fundamentals</b><br>Coddy                                        | December 2025<br>Credential ID: 7mAz3F-python-ZP9neU |
| • <b>C for Everyone: Programming Fundamental</b><br>UC Santa Cruz / Coursera | October 2021<br>Credential ID: 772WLAW4X3RV          |