

IRFAN GAZI

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Education

Khulna University of Engineering & Technology (KUET)

January 2019- March 2024

Bachelor of Science in Building Engineering and Construction Management (BECM)

CGPA: 3.63 /4.00 (Last 4 semesters CGPA: 3.87)

Class Rank: 5 / 79 (Top 5%)

Major: Construction Engineering and Management

Research Interest

- Digital Twins
- Energy and Sustainability
- Automation and Robotics
- Extended Reality
- Defect and Risk Management
- Data Science

Research Experience

Undergraduate Thesis

January 2023- March 2024

“BIM-Integrated Virtual Reality Framework for Machine Learning Enhanced Carbon Footprint Reduction”

- Predicted the carbon-efficient mix design through the web-based application using supervised machine learning.
- Developed a BIM-Revit module synchronizing the quantified carbon data with the plugin and the game engine.
- Created a platform for visualizing carbon footprints through Unity's web-based virtual nature.

Publications

- Applications of Digital Twin Based on BIM in Construction 4.0: A Systematic Literature Review**
(Under Review at International Journal of Building Pathology and Adaptation)
- Monte Carlo Simulation-Based Occupational Risk Assessment in the Bangladeshi Construction Industry**
(Under Review at International Journal of Construction Management)
- A Flexural, Cracking, and Cost-Effective Performance of Damaged Reinforced Concrete Beam Retrofitting with Various Techniques** (Under Review at Discover Civil Engineering)
- A Systematic Review of Deep Learning-Based Drone Applications in the Construction Industry**
(The final draft is ready to be submitted to a journal as the first author)

Technical Skills

Simulation Software : Autodesk Revit, Navisworks, Primavera P6, Unity game engine.
Programming language : Python, C# Scripting for Unity, MATLAB.
Scientific Graphics : Origin Pro, Tableau, VOSviewer.

Standardized Test Scores

IELTS: 7.5 / 9.0

November 21, 2024

Score Details: Reading: 8, Listening: 7.5, Speaking: 7, Writing: 7 [\[PDF\]](#)

Academic Projects

Building Design and Construction Management using BIM, KUET

- Implemented BIM tools like Revit, Robot, Navisworks, and Primavera P6 in an overall building project life-cycle

Analysis and Design of a 10 Storied Residential Building, KUET

- Completion of Twelve Storied Structural Design of a Building both manually and through CSI ETABS

Implementation of Structural Health Monitoring Techniques, KUET

- Employed tools like rebound hammers, ultrasonic pulse velocity machines, and rebar scanner

Execution of a construction project model from planning to implementation stages, KUET

- Employed MS Project software in different stages of a project for scheduling, budget tracking, and delay analysis

Achievements and Awards

Dean's List Award for GPA 3.96/4.00 in the fourth year of undergraduate studies, KUET

Dean's List Award for GPA 3.76/4.00 in the third year of undergraduate studies, KUET

University Merit Scholarship in all terms of undergraduate studies, KUET

Education Board scholarships in secondary and higher studies.

Runners-up in Technical Poster Presentation, Civil Convivial 3.0, KUET

Leadership and Extracurricular Activities

BECM Technical Club (BTECK), KUET | *Vice President*

2022-2023

- Arranged workshops related to construction engineering
- Instructor of Autodesk Revit teaching sessions

Cyborg – Cyber Gaming Club of KUET | *Organizing Secretary*

2022-2023

- Arranged online and LAN gaming competitions.
- Instructor of Unity Game Engine teaching sessions

KUET Research Society | *Vice President*

2022-2023

- One of the founding members of this innovative club.
- Managed a team of 20 members to manage the club activities.

Language Proficiency

- Bengali (Native Language)
- English (Full Work Proficiency)

Online Certifications

- Anaconda Python for Data Science Professional Certificate
- LambdaTest Test Automation Professional Certificate
- SS&C Blue Prism Robotic Process Automation Professional Certificate

References

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