Md. Raisul Islam Rifat

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Chittagong, Bangladesh

EDUCATION

• **Bachelor of Science in Electrical and Electronic Engineering** *July 2025*
Chittagong University of Engineering and Technology Chittagong, Bangladesh
  ◦ CGPA: 3.48/4.00

• **Higher Secondary Certificate** *May 2019*
Chittagong College Chittagong, Bangladesh
  ◦ GPA: 5.00/5.00

• **Secondary School Certificate** *March 2017*
Nasirabad Govt. High School Chittagong, Bangladesh
  ◦ GPA: 5.00/5.00

PUBLICATIONS
C=Conference, J=Journal, P=Patent, S=In Submission, T=Thesis

[S.1] **QSAC: Quantum-assisted Secure Audio Communication using Quantum Entanglement, Audio Steganography, and Classical Encryption**. (*Accepted in Engineering Science and Technology, an International Journal (Article reference: JESTCH_102167), Awaiting Publication.*)
Md. Raisul Islam Rifat, Md. Mizanur Rahman, Md. Abdul Kader Nayon, Md Shawmoon Azad and M.R.C. Mahdy.
  • Designed a novel scheme of secure audio communication by incorporating E-91 Quantum Key Distribution with SHA-3 Hashing Algorithm, ChaCha20-Poly1305 AEAD and LSB steganography.

RESEARCH EXPERIENCE

• **Familiarization with Quantum Computing, Quantum Key Distribution & Post-quantum Cryptography.** 2024-2025
Supervisor: M.R.C Mahdi, Department of Electrical and Computer Engineering, North South University, Bashundhara, Dhaka [⟳]
  ◦ Learned about Quantum Matrix Mechanics and implemented BB84, B92 and E91 Quantum Key Distribution protocols as well as Quantum-safe Cryptography schemes such as Lattice-based cryptography using QISKIT.

• **Design of a Negative Refractive Index THz Metamaterial Biosensor for Cancer Cell Detection** 2024-2025
Supervisor: Miss Nipa Dhar, Assistant Professor, Chittangong University of Engineering and Technology [⊕]
  ◦ Learned about the Negative Refractive Index property of metamaterials and attempted to implement this property in THz frequency range using CST.

PROJECTS

• **Capacitance Meter Design Project: Made a functioning Capacitance Meter using PIC 16F628A.** 2023
Tools: MikroC Pro, PICKit, Proteus [⟳]
  ◦ Developed a functioning Capacitance Meter using microcontroller for measuring capacitance in the range of $1nF - 1\mu F$ through simulation and PCB implementation.

• **Machine Design Project: Designed a 470 kVA Distribution Transformer.** 2023
Tools: AutoCAD Electrical, MATLAB [⟳]
  ◦ Created Transformer design based on the required parameters using AutoCAD and MATLAB.

• **Heart Rate Sensor Design Project: Made a functioning Heart Beat Sensor using Arduino Uno vR3.** 2022
Tools: Arduino, C++, Proteus [⟳]
  ◦ Developed a functioning Heart Rate Sensor using Arduino for measuring heartbeat from fingertip.

INTERNSHIP EXPERIENCE

• **Bangladesh Telecommunications Company Ltd. (BTCL)** *24th November, 2024 - 12th December, 2024*
BTCL Regional Exchange, Nandankanon, Chattogram [⊕]
  ◦ Participated in a 15-day long internship training program hosted by BTCL as part of the academic curriculum.

LABORATORY EXPERIENCE

• **University Lab Projects** 2022-2024
Chittagong University of Engineering and Technology [⟳]
  ◦ **Digital Logic Design:** Worked on various lab-based digital logic design projects, including creating combinational and sequential circuits using Cadence Virtuoso.

  ◦ **Analog Circuits:** Conducted analysis and testing of analog circuits in lab settings, applying theoretical knowledge to practical implementations.

Skills

- **Programming Languages:** C, C++, C#, Python, Assembly, Verilog.
- **Data Science & Machine Learning:** NumPy, Pandas, Matplotlib, Scikit-Learn, TensorFlow, Keras.
- **VLSI Design Tools:** Cadence, LTSpice, ModelSim.
- **Operating System:** Arch Linux, Ubuntu, Debian, Linux Mint, Windows
- **Other Tools & Technologies:** MATLAB, Multisim.

Certification

• **Digital Design for Industrial Control**   *2024-2025*
Enhancing Digital Government and Economy (EDGE) Project of Bangladesh Computer Council, ICT Division   [🌐]
◦ Participated in and completed the **Digital Design for Industrial Control** (EDGE −1013) course hosted in CUET.

• **Networking Basics**   *2025*
Cisco Networking Academy   [🌐]
◦ Participated in and completed the **Networking Basics** course offered by the Cisco Networking Academy.

• **Introduction to Cybersecurity**   *2025*
Cisco Networking Academy   [🌐]
◦ Participated in and completed the **Introduction to Cybersecurity** course offered by the Cisco Networking Academy.

• **Introduction to Packet Tracer**   *2025*
Cisco Networking Academy   [🌐]
◦ Participated in and completed the **Introduction to Packet Tracer** course offered by the Cisco Networking Academy.

Awards

• **Education Board Scholarship**
Board of Intermediate & Secondary Education, Chattogram   Chittagong, Bangladesh
◦ Received General Grade Scholarship in SSC (2017-2019)
◦ Received General Grade Scholarship in HSC (2019-Present)

References

Dr. Mahdy Rahman Chowdhury
Associate Professor, ECE Department,
North south Univarsity, Dhaka
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