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EDUCATION

- **Chittagong University of Engineering & Technology** 2020-2025
BSc in Computer Science & Engineering CGPA: 3.17 (scale of 4.0)
 - **Relevant Coursework:** Data Structure, Algorithm, Machine Learning, Operating Systems, Computer Networking



WORK EXPERIENCE

- **Software Engineering Trainee, Rilo IT Ltd** December 2024 - January 2025
Utilized Next.js, React, JavaScript, MongoDB
 - Developed the **Add Employee** module with role-based access and automatic secure password generation for employee onboarding
 - Collaborated with a 7-member team to deliver 8+ features using Git and a feature-based folder structure

RESEARCH EXPERIENCE

- **Blockchain-enabled Internet Voting: TCP/IP vs. NDN Analysis**
Utilized C/C++, ns-3, ndnSIM
 - Implemented performance measurement logic showing NDN's **38.1% lower delay**, **81% fewer packet drops**, and **1.67× higher throughput** compared to TCP/IP.
 - Enhanced blockchain with SHA256 hashing, nonce-based Proof of Work, and block consistency checks
- **Forged Message Detection in Vehicular Named Data Networking**
Utilized C/C++, ns-3, ndnSIM
 - Designed a **PBFT-based consortium blockchain** system with **cryptographic vehicle registration** for secure identity management
 - Proposed spatio-temporal clustering and trust-weighted credibility scoring to classify messages and update vehicle reputations

PROJECTS

- **Machine Learning Model for Barbell Exercise Recognition** November 2023 - January 2024
Utilized Pandas, Matplotlib, NumPy, scikit-learn 
 - Classified barbell exercises using wearable sensor data (accelerometer, gyroscope)
 - Achieved **98%** accuracy in exercise classification with random forest
 - Attained **96%** accuracy in repetition counting via peak detection
- **Legal Aid and Document Management Website** November 2023 - January 2024
Utilized MongoDB, React, Node.js, JavaScript, HTML, Tailwind CSS 
 - Implemented a **real-time chat system** for legal guidance in a collaborative project
 - Designed responsive front-end components using React and Tailwind CSS

TECHNICAL SKILLS & INTERESTS

Programming Languages: C/C++, Python, JavaScript, LaTeX

Frameworks & Tools: React, Node.js, Next.js, Git, Linux, ns-3

Databases: MongoDB, MySQL

Area of Interest: Competitive Programming, Computer Networking

Soft Skills: Problem Solving, Teamwork, Communication

ACHIEVEMENTS

- **25th among 82 teams in SEC Inter-University Junior Programming Contest, 2022.** Team Name: CUET_Tribyte
- **16th among 41 teams in EDU Inter-University Programming Contest, 2022.** Team Name: CUET_DoubleZero
- **Top 2.64% (555 out of 21,000 participants) in Codeforces Round 827 (Div. 4)** 