# Md Rifatul Islam

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## ACADEMIC CREDENTIALS

February 2017 – July 2022 **Bachelor of Science in Mechatronics and Industrial Engineering**
Chittagong University of Engineering & Technology (CUET)

**CGPA:** 3.65 on a scale of 4.00 (3.83 in last four terms)
**Undergraduate Thesis:** A Comparative Approach to Alleviating the Prevalence of Diabetes Mellitus Using Machine Learning

- Analyzed the risk factors of diabetes in Bangladesh
- Developed and compared 14 ML models to predict the disease in the early stage

## RESEARCH & PUBLICATIONS

- **Md. Rifatul Islam**, Semonti Banik, Kazi Naimur Rahman, and Mohammad Mizanur Rahman, A comparative approach to alleviating the prevalence of diabetes mellitus using machine learning, *Computer Methods and Programs in Biomedicine Update* (2023), doi: https://doi.org/10.1016/j.cmpbup.2023.100113.
- Kazi Naimur Rahman, Monowar Wadud Hridoy, Mohammad Mizanur Rahman, **Md. Rifatul Islam**, and Semonti Banik, Highly secured and effective management of app-based online voting system using RSA encryption and decryption, *Heliyon* (2024), doi: https://doi.org/10.1016/j.heliyon.2024.e25373.

## WORK EXPERIENCE

November 01, 2023 – Present **Machine Learning Engineer**
Polyfins Technology Inc., Fremont, California, United States

- Performing research initiatives to identify innovative solutions and AI techniques for addressing complex challenges in dermatology
- Working on Vision-Language models and prompt engineering
- Implementing MLOps best practices to streamline the ML lifecycle and ensure seamless model integration into production environments
- Developed state-of-the-art deep learning model for 12 skin disease classification and deployed on mobile application named 'Tibot'

## INTERNSHIP & INDUSTRIAL ATTACHMENT

July 16, 2023 – October 16, 2023 **Machine Learning Engineer (Intern)**
Polyfins Technology Inc., Fremont, California, United States

- Performed tasks including time series analysis, clustering, image classification, feature extraction, and semantic segmentation.

May 10, 2022 – May 23, 2022 **Industrial Attachment Trainee**
Unipolar Automation Technologies, Dhaka, Bangladesh

- Learned about basic troubleshooting and controlling an automated industry using PLC, HMI, and CCW Software

October 2020 – November 2020 **Artificial Intelligence Intern**
Pantech Prolabs India Pvt, Ltd., Chennai, India

- Familiarized with deep learning frameworks and libraries
- Learned to build deep learning models by working on several projects

May 2020 – June 2020 **Data Analytics Virtual Intern**
**I**nsideSherpa

- Learned about comprehensive exploratory data analysis to uncover data patterns and performed rigorous data quality assessment tasks

## TECHNICAL SKILLS

**Programming Languages:** Python | MATLAB | C | SQL | JavaScript **Design:** AutoCAD | SolidWorks
**Libraries/Frameworks:** Scikit-learn | Pandas | OpenCV | Lightly SSL | Keras | TensorFlow | PyTorch | LangChain
**Automation and Control:** Arduino | Connected Components Workbench (CCW) | Factory I/O | WinSPS-S7 | Proteus
**Development Tools:** Google Colab | VS Code | Google Cloud Platform **Documentation**: LaTeX | MS Office
**Web/APIs Development:** HTML | CSS | React **|** FastAPI **Miscellaneous:** Git | Tableau

## PROJECTS

- Voice controlled robotic vehicle
- Automatic water valve control
- Automated inventory monitoring system
- Simulation of automated workpiece sorting system using Factory I/O
- Machine learning approach for predicting backorders in supply chain management
- Gastrointestinal disease classification and semantic segmentation
- Zero-shot object detection and segmentation using vision-language model
- American sign language detection using convolutional neural network

## TRAINING & ONLINE COURSE CERTIFICATIONS

- Completed a 32-hour training on 'Foundations in Digital Forensics with Magnet Axiom Forensic Tool' in association with Bangladesh Hi-Tech Park Authority, Contessa Solutions & Consultants Limited in 2019
- Completed a hands-on course on Internet of Things from October 2019 to February 2020, arranged by Planeter Ltd.
- Machine Learning – Coursera
- DeepLearning.AI TensorFlow Developer Specialization – Coursera

## STANDARDIZED TEST SCORE

- **IELTS:** Overall: 7 **|** Listening: 7.5 **|** Reading: 6.5 **|** Writing: 6.5 **|** Speaking: 6.5

## LANGUAGE PROFICIENCY

- Bengali (Native Language)
- English

## EXTRACURRICULAR ACTIVITIES

- **Lab Director | Robo Mechatronics Association, CUET** (2021-2022)
  - Worked in arranging various workshops, seminars, and competitions during the event 'Tech Day 2021'
- **Treasurer | IEOM CUET Student Chapter** (2021-2022)
  - Assisted the team in organizing Inter-University Scientific Poster Presentation Competition
  - Awarded with "IEOM Outstanding Student Chapter Award-GOLD" during our tenure
- **Campus Research Ambassador | Be Researcher BD** (2021-2022)
  - Promoted research activity and developed collaboration between the researchers and enthusiasts
- **Member | LIGHT, a non-profit organization** (2013-2014)
  - Collected funds and ensured education of some underprivileged children

## AWARDS & HONORS

- **Technical Scholarship** (2017- 2022)
  Awarded based on merits by Chittagong University of Engineering & Technology
- **Runner-up | Formula 1 RC Race Competition** (2018)
  Organized by Andromeda Space & Robotics Research Organization in CUET
- **12$^{th}$ | Standard Chartered International School Chess Tournament** (2010)
  Organized by Bangladesh Chess Federation

## REFERENCES

Dr. Mohammad Mizanur Rahman
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