

MD KHALID SYFULLAH

B.Sc. Engg. (ECE)

✉ [Gmail](#)  [Webpage](#)  [LinkedIn](#)  [GitHub](#)  [LeetCode](#)  [Google Scholar](#)

EDUCATION

Rajshahi University of Engineering & Technology (RUET)

Jan 2017 – Apr 2024

Bachelor of Science (B.Sc. Engg.) in Electrical & Computer Engineering (ECE)

CGPA: 3.30/4.00

Courses: [View Statement of Courses and Grades](#)

WORK EXPERIENCE

Qubitech Solutions

Apr 2021 – Dec 2021

Software Developer

Rajshahi, Bangladesh

- Led development of 4 projects at Qubitech Solutions, fueling startup growth and technological advancement.
- Collaborated with 2 startup clients, contributing to the development of Native Android apps and web platforms.
- Worked closely with CEO Mr. Mahir Ashef and a team of 6 front-end, back-end, and Android developers, achieving a large reduction in development time.

Developed Projects:

- OBOSOR, Community & Campus-based Online Book Shop, Project Link: [Website](#)
- BERGER, Data Collector App, Project Link: [Website](#)

MonstarLab Bangladesh

Apr 2021 – Jun 2021

Industrial Attachment

Dhaka, Bangladesh (Remote)

- Analyzed all SDLC phases, requirements analysis, database optimization schemas, and OOP principles for 2 projects.
- Analyzed 4 design patterns and 2 development frameworks (AngularJS and Native Android) for platform development.
- Learned beta testing to ensure product quality assurance, and Git for version control.

Developed Projects:

- Angular Front-end, Blog Web Application, Project Link: [GitHub](#)
- Node.js Back-end, Blog Web Application, Project Link: [GitHub](#)

B.SC. THESIS

BOIMELA: Development of An EPUB3 Reader with Multilingual EBook Store, OAuth 2.0 API and MVVM Architecture, M. K. Syfullah, Dept. of ECE, RUET, Link: [Thesis Book](#)

- **EPUB3 Support:** Developed a modern in-app reading experience in both English and Bangla with reflowable layout and rich media content. Implemented features like chapter navigation, progress monitoring, light/dark modes, and screen adjustment.
- **MVVM Architecture & OAuth 2.0 API Access:** Structured e-book collection using MVVM for better performance and scalability. Implemented secure API access with OAuth 2.0 authentication and administrative functions.

TECHNICAL SKILLS

Languages	Java, Python, C, C++, JavaScript, HTML5, CSS3, PHP, XML, LaTeX
ML/DL	Numpy, Pandas, Scikit-Learn, Tensorflow, PyTorch, SHAP, LIME
Back-end	Node.js (Express, Mongoose, JWT, Bcryptjs, Multer, Chai, Mocha, Jest)
Mobile App	Android Native (Java + XML, Firebase, Retrofit, Tensorflow Lite)
Front-end	React, Redux, Tailwind CSS, Bootstrap 5, Axios
Database	MongoDB, MySQL, Firebase, SQLite
Cloud	AWS (EC2, Route 53), GCP (Compute Engine), CPanel
Linux	Apache, Vsftpd, Nginx, Bind, Git, Bash (Shell Scripting), Docker
Circuit/AVR	Proteus, EasyEDA, Atmel Studio, Arduino IDE, eXtreme Burner - AVR
IoT	Arduino Mega, ATMEGA328P, ESP32/ESP8266, Raspberry Pi 3/4
Tools	MATLAB, Anaconda, Jupyter, Postman, GitHub, SSH
Extras	VS Code, Android Studio, Google Antigravity, Adobe XD, Figma, Adobe Illustrator

IRv2-Net: A Deep Learning Framework for Enhanced **Polyp Segmentation** Performance Integrating InceptionResNetV2 and UNet Architecture with Test Time Augmentation Techniques, M. F. Ahmed, **M. K. Syfullah**, O. Sarkar, M. T. Islam, M. Nahiduzzaman, M. R. Islam, A. Khandakar, M. A. Ayari and M. E. H. Chowdhury, **Sensors**, 2023, 23(18):7724, DOI: [10.3390/s23187724](https://doi.org/10.3390/s23187724).

Parallel CNN-ELM: A multiclass classification of chest X-ray images to identify **seventeen lung diseases** including COVID-19, M. Nahiduzzaman, M. O. F. Goni, R. Hassan, Md. R. Islam, **M. K. Syfullah**, S. M. Shahriar, M. S. Anower, M. Ahsan, J. Haider and M. Kowalski, **Expert Systems with Applications**, 2023, Volume 229, Part A, 120528, DOI: [10.1016/j.eswa.2023.120528](https://doi.org/10.1016/j.eswa.2023.120528).

Bridging the Gap: Advancing the Transparency and Trustworthiness of Network Intrusion Detection with **Explainable AI**, M. T. Islam, **M. K. Syfullah**, M. G. Rashed and D. Das, **International Journal of Machine Learning and Cybernetics**, 2024, DOI: [10.1007/s13042-024-02242-z](https://doi.org/10.1007/s13042-024-02242-z).

An Empirical Multi-Classification Approach of Classifying **Lung Affected** Diseases Utilizing **Multi-Scale CNN** Model, O. Sarkar, M. R. Islam, **M. K. Syfullah**, M. T. Islam, M. F. Ahmed and J. Haider, **Technologies**, 2023, 11(5):134, DOI: [10.3390/technologies11050134](https://doi.org/10.3390/technologies11050134).

Plant Disease Classifier: Detection of Multi-crop Diseases Using Lightweight CNN Architecture, H. I. Peyal, M. Nahiduzzaman, M. A. H. Pramanik, **M. K. Syfullah**, S. M. Shahriar, A. Sultana, M. Ahsan, J. Haider, A. Khandakar and M. E. H. Chowdhury, **IEEE Access**, 2023, DOI: [10.1109/ACCESS.2023.3320686](https://doi.org/10.1109/ACCESS.2023.3320686).

CONFERENCE PROCEEDINGS

Exploring the Potential: **ML vs. DL in Network Security** with Explainable AI (XAI) Insights, M. T. Islam, **M. K. Syfullah**, J. Islam, H. M. S. Quadir, M. G. Rashed and D. Das, **ICCIT, IEEE**, 2023, Cox's Bazar, Bangladesh, DOI: [10.1109/ICCIT60459.2023.10441363](https://doi.org/10.1109/ICCIT60459.2023.10441363).

Classification and Segmentation on **Multi-regional Brain Tumors** Using Volumetric Images of MRI with Customized **3D U-Net Framework**, M. F. Ahamed, M. R. Islam, T. Hossain, **K. Syfullah**, O. Sarkar, **ICICTD, Springer**, 2023, Singapore, DOI: [10.1007/978-981-19-7528-8_18](https://doi.org/10.1007/978-981-19-7528-8_18).

An Empirical Model of Classifying **Lung Affected Diseases** to Detect COVID-19 Using Chest X-ray Employing **Convolutional Neural Architecture**, O. Sarkar, M. R. Islam, T. Hossain, **M. K. Syfullah**, M. T. Islam and M. Moniruzzaman, **IICAIET, IEEE**, 2022, Kota Kinabalu, Malaysia. DOI: [10.1109/IICAIET55139.2022.9936762](https://doi.org/10.1109/IICAIET55139.2022.9936762).

IoT Based **Multi-layered Security** & Automated Monitoring System, **M. K. Syfullah**, H. I. Peyal, S. S. Bippro, S. M. Shahriar and M. H. Mondol, **IC4ME2, IEEE**, 2021, Rajshahi, Bangladesh. DOI: [10.1109/IC4ME253898.2021.9768512](https://doi.org/10.1109/IC4ME253898.2021.9768512).

STANDARDIZED TEST SCORES

IELTS	Overall Band Score: 8.0 (Listening: 8.5, Speaking: 8.0, Reading: 7.5, Writing: 7.0)
GRE	General Test Score: 301 (Verbal: 145, Quantitative: 156, Analytical Writing: 3.5)

CERTIFICATIONS

Machine Learning Specialization

University of Washington, Coursera

Credential URL: [Click to Open](#)

September 2023

Credential ID: *KJ5PZ6VVX4NS*

Reinforcement Learning Specialization

University of Alberta, Coursera

Credential URL: [Click to Open](#)

September 2023

Credential ID: *VVN725H2W3SK*

Self-Driving Cars Specialization

University of Toronto, Coursera

Credential URL: [Click to Open](#)

October 2023

Credential ID: *N2ZKC5FNBR95*

BOIMELA Mobile EPUB3 Reader with E-Book Store	Mobile App
* Developed a mobile application for reading and purchasing eBooks using the EPUB3 format. * Implemented features for seamless reading, bookmarking, and user library management. * Project Link: GitHub	
BOIMELA Back-end Node.js REST API for Boimela: EPUB 3.0 Reader	Back-end
* Developed a REST API using Node.js to support the Boimela mobile application. * Implemented endpoints for user authentication, book management, and purchase transactions. * Ensured secure and efficient handling of user data and transactions. * Project Link: GitHub	
BOIMELA WEB Boimela E-Book Store React Web App	Website
* Developed a web application using React.js for the Boimela E-Book Store. * Implemented features for browsing, purchasing, and reading eBooks online. * Integrated with the Boimela back-end for seamless user experience across platforms. * Project Link: GitHub	
PLASMA+ Plasma & Blood Banking Platform for Android	Mobile App
* Created a mobile application to connect plasma and blood donors with recipients. * Implemented back-end services for user registration, search, and matching functionalities. * Project Link: GitHub	
VFloors360-Client 360° VR Room Visualization Platform	Website
* Developed an immersive 360-degree room visualization platform to explore tile catalogs in realistic VR environments. * Implemented dynamic scene loading and seamless integration with backend APIs for responsive content delivery. * Project Link: GitHub	
VFloors360-Server Node.js REST API for VR Visualization Platform	Back-end
* Developed a RESTful backend using Node.js, implemented user authentication and tile management using MongoDB. * Project Link: GitHub	
VFloors360-Admin Administrative Dashboard for VR Content Management	Website
* Developed an administrative dashboard for managing tile textures and platform configurations using React. * Project Link: GitHub	
Task Manager React Task Management Web App	Website
* Developed a task management web application using React.js for the front end. * Implemented features for viewing, adding, editing, and deleting tasks with real-time updates. * Integrated with a Node.js and Express backend for RESTful API operations, and MongoDB for task storage. * Project Link: GitHub	
Muslim Virtual Aid App Android Islamic App	Mobile App
* Developed an Android application using Java and XML to assist users in daily Islamic practices. * Implemented core features including Quran access, Salah times, mosque locations, Qibla direction, and Ramadan-specific functionalities for Bangladesh. * Followed MVVM architecture to ensure clean, maintainable, and scalable code structure. * Project Link: GitHub	
GrammarQuick for Android English Grammar App	Mobile App
* Developed an educational mobile application integrating various grammar exercises and quizzes to enhance learning. * Project Link: GitHub	
CXR17-DenseParallel-ELM CNN-based 17 Lung Diseases Detector	Mobile App
* Developed a mobile application using Convolutional Neural Networks (CNN) to detect 17 lung diseases. * Implemented DenseParallel-ELM model to enhance accuracy and performance. * Project Link: GitHub	
Plant Disease Classifier CNN-based Cotton & Tomato Diseases Detector	Mobile App
* Developed a mobile application to classify diseases in cotton and tomato plants using CNN. * Trained the model on a dataset of plant images to achieve high accuracy. * Project Link: GitHub	
ROPMS PHP-based Student-Teacher Profile Management System	Website
* Developed a web application using PHP for managing student and teacher profiles. * Implemented features for profile creation, updates, and performance tracking. * Ensured data security and integrity through robust back-end solutions. * Project Link: GitHub	

WINNER, IEEE YESIST12 2020, Special Track

September 2020

PLASMA+

Malaysia

- * An AI-based Blood and Plasma banking mobile application that facilitates COVID-19 detection from chest X-ray images and connects donors and patients nationwide.

2nd Runner-up, Virtual Project Competition on ICT, IICT, RUET

December 2020

PLASMA+

Bangladesh

- * A DL-based lightweight lung-affected disease recognition app with COVID-19 detection.

Extraordinary Achievement, Distinguished Achievements Award, ECE, RUET

October 2019

IoT Based Multi-layered Security & Automated Monitoring System

Bangladesh

- * An IoT-based sustainable solution for a multi-layered security system for home and office at a minimum cost with monitoring and alarm.

Most Popular Project Award, IEEE YESIST12 2019, Maker Fair Track

September 2019

IoT based Monitoring Car Robot for Disaster Management

Thailand

- * An IoT-based robot car solution for disaster management that detects environmental parameters and transmits vital information to a central host, enabling efficient rescue operations in specific areas.

LEADERSHIP / EXTRACURRICULAR

Medspire, IEEE R10 HAC Special Project

May 2020 – Mar 2021

IEEE Region 10 & IEEE HAC Special Call for Projects (R10-HTA-021)

Rajshahi, Bangladesh

- * Addressed local needs during COVID time by proposing and developing a telemedicine platform for Android to establish seamless patient-doctor interaction.
- * Participated in a high-profile startup pitching competition.

Developed Projects:

- * **PLASMA+**, Plasma & Blood Banking Platform, Project Link: [GitHub](#)
- * **E-DOCTORS**, Mobile Telemedicine Platform for Android, Project Link: [GitHub](#)

Organizing Committee Member

December 2019

Hult Prize at RUET, 2019-20

Hult Prize Foundation

- * Managed communications between event sponsors and organizers.
- * Interacted with the judges' panel during the competition.

Web Developer

June 2019

Technocracy 2019

Department of ECE, RUET

- * Developed an event management website for the technical organization of Technocracy 2019 event.