

# MD FOURKANUL ISLAM

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## Education

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**M.S. in Information Systems**, University of Maryland, Baltimore County Jan 2022 - Current

**B.S in Computer Science & Engineering**, MIST, Dhaka, Bangladesh Jan 2016 - Dec 2019

- Major in Computer Science and Engineering, **CGPA: 3.54**

## Skills

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- Python | C# | .NET | Java | React Native | MySQL | SQLite | C++ | Git | Frontend | Backend | Full-Stack
- Android SDK | Unity 3D | GIS | Lambda | OOP | Linux | Game Development | Scikit Learn | Arduino

## EXPERIENCE

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**Software Engineer | AWGC, Dhaka, Bangladesh** Jan 2020 – Dec 2021

- Developed a desktop application to render geospatial data using **.NET** custom **WinForms control** and graphic overlay.
- Developed simulation game mission system following **Adapter**, **Singleton**, and **Factory** design patterns.
- Contributed to designing and developing different features of a multiplayer simulation system and maintained the existing code base using the latest technologies of **C#**, **.NET**, **.NET Entity Framework**, **ASP.NET**, and **MongoDB**.

**Software Engineer Intern | Robi Axiata Ltd, Dhaka, Bangladesh** Dec 2018 – Jan 2019

- Worked closely with the network load monitor team and performed a variety of technical tasks to assist engineers.
- Assisted the R&D and Issue management teams. Developed and wrote technical documentation and managed a set of technical issues.

## PROJECTS

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**Graduate RA | University of Maryland, Baltimore County**

- Developed a cross-platform mobile application using react native and connected the app to the **ASP.NET Core Web API**, and **Microsoft SQL server** on a **Linux system** using **Retrofit** and **RESTful API**.
- Deployed a time series annotation tool using **python Flask server** and applied deep learning algorithms in the backend.

**MyPath - [React Native, Python, SQL server, C#, ASP.NET, Full-Stack] [\[Link\]](#)**

- Developed a mobile application to collect user location and motion sensor data in the background from the users and sync the collected data with the **ASP .NET Core Web** server using **REST API**.
- Synced the collected data from mobile devices using a scheduled background task and used the **chain of responsibility** pattern to log the data on the server side.
- Used supervised/semi-supervised learning using python **Pandas**, **NumPy**, and **Scikit-learn** libraries to identify surface characteristics using motion sensors data to develop an accessible map using OSM.

**IoT Based Gaming Application - [Arduino, Android SDK, RFID, C++] [\[Link\]](#)**

- Developed a physical gaming device with **Arduino mega**, joystick, and piezoelectric sensors for autistic children.
- Implemented a progress tracking app that can control that device, collect progress data, and sync the app data to the **google cloud platform (firebase)** using **java**.
- Developed a dynamic game object-adding system in that IoT-based tool using the android app and RFID-tagged cards.

**Android Keyboard Application - [Java, SQLite] [\[Link\]](#)**

- Developed a custom android keyboard app to type phonetic Bengali language using the English keyboard layout.
- Implemented word autocomplete system based on the user's input using **java** and **SQLite** database.

## Publications

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- Towards Developing an IoT-Based Application for Improving Cognitive Skills of Autistic Kids [ACIIDS 20].
- Design and Development of a Gaming Application for Learning Recursive Programming [IJCACI 20].

## Others

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- **Innovative Project Award (2nd Runner up)** at BASIS Soft Expo 2020.
- **Best Undergraduate Project Award** at Military Institute of Science & Technology (ECE Faculty 2019).
- Participated in many programming and problem solving competitions including ACM ICPC regional.