A. H. M. Rezaul Karim

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About Me

Time management is something that I take very seriously. So, completing an assignment in time is not an issue for me. I am eager to absorb as much knowledge and insight as possible in the pursuance of my goal. Following through my work with 100% dedication is a special trait of mine. I strive to achieve perfection in whatever I set out to accomplish and am always on a journey to learn new things that'll help me excel in my future endeavors.

Education

Islamic University of Technology *Gazipur, Bangladesh*
B.SC IN COMPUTER SCIENCE AND ENGINEERING 2017-2021
- CGPA: **3.87** out of **4.00**

Scholarshome *Sylhet, Bangladesh*
HIGHER SECONDARY CERTIFICATE 2014-2016
- GPA: **5.00** out of **5.00**

Scholarshome *Sylhet, Bangladesh*
SECONDARY SCHOOL CERTIFICATE 2012-2014
- GPA: **5.00** out of **5.00**

Skills

Programming Language	C/C++, Java, Python
Web Programming	HTML/CSS, Servlet, Spring Framework, Bootstrap, Basic JavaScript, JSP/JSTL
Database Management Systems	Oracle SQL, PL/SQL, Firebase, SQLite
Development Tools and IDEs	Intellij IDEA, Netbeans, Android Studio, Code Blocks, Eclipse, Visual Studio
Network Simulation	Networks Simulator (ns-2), Cisco Packet Tracer
Operating Systems	Windows, Linux(Ubuntu), Android
Miscellaneous	Microsoft Office, Google Colaboratory, LaTeX, Blender 3D, Adobe Illustrator

Projects

Multi-label Genre Classifier ***2020***
- An approach towards building a deep neural network architecture that uses both spatial and temporal information. The model showed significant performance in multi-label genre classification problem. A pre-trained model was also combined with this model to get more accurate results.
- Technologies used: *Python, Deep learning, Resnet50, LSTM Architecture*
- IDE: *Google Colaboratory*
- The model can classify the genre of any movies or TV series with an accuracy of 85%.

Leafy ***2019***
- A mobile application built using deep neural network architecture that can classify different leaf diseases from a captured photograph. The model shows significant performance in correctly identifying 30 different leaf disease with an accuracy of 80%.
- Technologies used (ML Model): *Python, Deep Learning, TensorFlow, Inception v3.*
- Technologies used (Android App): *Android Studio, Java, SQLite Database*
- This application can identify 30 different leaf diseases provided only the picture of the diseased leaf with around 80% accuracy.

Robotic Hand with 6-DOF *2019*

- A robotic hand built using servo motors and Arduino uno as the main components with a steel frame. It can be used to perform basic hand movements that can lift a small object. The arm can be controlled using a remote controller application from any mobile devices or computers. Alternatively, the arm can be automated to keep following a set of instructions.
- Hardware: *Arduino Uno, Servo Motors.*

Martsy *2019*

- An online e-commerce website that sells books, accessories and souvenirs. The web application contains an admin login system that is used to add and remove different items. The user login system is used to browse and select products to purchase.
- Programming Language: *Java, JSP, Servlet, Spring Framework, HTML/CSS*
- Platform: *Intellij, H2 Database*

MedKit *2019*

- A mobile health application that takes the user's data as input and provides a diet to follow. It also reminds the user to take medicine in time. The application can also be used as an online medicine delivery service by providing the prescription for verification.
- Technologies used: *Java, SQLite Database, Android Studio*
- The application provides a diet based on the Bangladeshi cuisine for breakfast, lunch and dinner.

Research Works

Attack Step Prediction of Targeted Attacks using Deep Learning

B.Sc. Thesis work in Network Security *2021*

- Keywords: Cyber Security, Targeted Attack, LSTM Architecture, Encoder-Decoder Model
- Since adversaries use sophisticated techniques for targeted attacks, prediction of this attack beforehand is quite impossible. So, an approach to predict the attack steps can be taken to lower the chances of a successful targeted attack. Previous works introduce IDS based attack prediction techniques. Ours is a novel idea to predict the attack steps based on MITRE ATT&CK Framework. The model can predict the next step in a targeted attack sequence with an accuracy of 86%.

Research Interests

- **Machine Learning**
- **Artificial Intelligence**
- **Network Security**

Work Experience

Samsung R&D Institute Bangladesh *Dhaka, Bangladesh*

Software Engineer Intern *November 2019 – January 2020*

Extra-Curricular Activities

- Treasurer at IUT Computer Society - IUTCS *2019 - 2021*
- Logistics and Operations Executive at IUT Career and Business Society – IUTCBS *2019 - 2020*
- Organizer of 9th & 10th ICT Fest *2017, 2019*

References

Dr. Muhammad Mahbub Alam	**Dr. Abu Raihan Mostofa Kamal**
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