Md Jahirul Islam

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Educational Credentials

- **Masters in Computer Science, AI concentration** August 2023-Cont.
  Kennesaw State University, GA, USA
- **Bachelors of Science in Computer Science and Engineering** August 2021
  Chittagong University of Engineering & Technology, Bangladesh CGPA: 3.12/4.00
  Thesis: Smart water quality monitoring and controlling system

Publications

1. **M. J. Islam**, R. Islam, "Towards Optimized Cybersickness Prediction for Computationally Constrained Standalone Virtual Reality Devices", Submitted to IEEEVR 2024
2. **M. J. Islam**, Asaduzzaman, "Smart Water Quality Monitoring and Controlling System", Proceedings of the 5th International Conference on Electrical Information and Communication Technology (EICT), pp. 56, 17-19 December 2021, Khulna, Bangladesh [Link]
   - Water data was collected using sensors then transmitted to a server, and retrieved using an Android application. Water flow, consumed volume, pH, Turbidity data were analysed and the flushing process was done

Professional Experience

- **Graduate Research Assistant** at **XRI-lab, Kennesaw State University** August 2023- Cont.
  - Research: Cybersickness prediction with health data (HR, EDA, Head and Eye movement)
  - Developed model using RNN, GRU, LSTM, CNN-LSTM, Attention-LSTM, Transformer, DeepTCN [Link]
  - Deployed DNN models to **Snapdragon** chipset with **UNITY SDK** in Meta Quest 3
  - Worked with **Hp Omnicept Reverb G2, VR Headsets**, **Emotibit**, **ESP32**, Virtual-Reality, Mixed-Reality
- **Machine Learning Engineer (Full-time)** at **AI Samurai Japan** January 2023 - July 2023
  - Developed Car Image Segmentation model using Yolov6.[Link]
    In Web application deployed that model, used **Flask** for API. For production, used Docker to dockerize the whole application, deployed on the client's **GCP** computing server and also used **GitHub Action** for CI/CD.
  - Developed Image Anomaly detection application [Link]
    In this project, classified defected potatoes using **Pathcore** and **Padim**, for auto segmenting used **DINO** and **SAM**. Made Industry graded documentation for client
  - Learned punctuality, maintaining delivery deadline, and politeness in Japanese working culture

Research Interest

- Applying Machine Learning Algorithms in various disciplines
- Applying Deep Learning/ Deep Neural Networks in Computer Vision
- Work on Reinforcement Learning for robotics
- Machine learning with Android/iOS/Game Engine
- Virtual reality, Augmented Reality, Mixed Reality

Standardized Test Scores

- **IELTS:** Overall: 6.5, Listening: 7, Writing: 7, Reading: 6, Speaking: 6 10th December, 2022
- **GRE:** Quantitive Reasoning: 158, Verbal Reasoning: 138, Analytical: 3 21st December, 2022

Linguistic Proficiency: English Japanese Bangla (Native)

Technical Skills

- **Programming Languages:** C, C++, **JAVA**, **Python**

- **Deep Learning Framework:** Scikit-learn, **TensorFlow**, **Keras**, **Pytorch**
- **Machine Vision: OpenCV**, CNN
- **Database & Tools:** MySQL, NoSQL, Firebase
- **Others:** **Git & Github**, **Docker**, Slack, Jira, Container, **AWS**, GCP, **Robotics(IoT)**, Unix, Windows, Rest API, Android Application development, flask, Selenium, Latex

Recent Completed Projects

1. **USA Universities Requirements Finder** - Python, Selenium, Pandas, Excel [Link]
2. **Image preprocessing using Opencv**[Link]
3. **Medicine Reminder and Dispenser**[Link]
   Features: A dispenser and a mobile application that notifies the user to take pill by turned ON buzzer, LED light and mobile alarm and showing information of the medicine.
   Technologies: Arduino, nodeMCU, ESP32, RTC module, JAVA
4. **Mango Diseases detection Using CNN (2021)**[Link]
   Features: To build the model amngo diseases image dataset, tensorflow and colab is used. Model is exported as .tflite which placed in android application. By taking image android can predict the diseases with accuracy.
   Technologies: CNN, tflite, android
5. **Smart car parking system (2021)[Link]**
   Features: With this system user can easily find the nearest parking spot and slot. This automated parking system has many features such as, auto parking, rent calculation and assuring security.
   Technologies: Android, Arduino, esp8266, esp32, microcontroller, firebase, embedded C, RTOS, lifecycle, Thread, Circuit design, Electronics, power management.
6. **Electricity Bill Management System (2019)[Link]**
   Features: This is a website development and database management project.
   Technologies: Html, Css, SQL, RDMS, PHP, Domain name management, Website Hosting
7. **Smart door lock – A real life operated device using RFID and password (2019)[Link]**
   Features: A keyboard with Bangla sign language and an application to show Bangla sign language by animation.
   Technologies: Arduino, esp8266, esp32, microcontroller, firebase, embedded C, RTOS, lifecycle, Thread, Circuit design, Electronics, power management.
8. **Depression test and counselling (2021)[Link]**
   Features: With this application the user can test his depression level and take precautionary measures. Also some doctors' contacts are also provided.
9. **Sales Record Inventory – A business management application (2020)[Link]**
   Features: This is an android application which is designed for the distributor. Distributing shop owner can manage his products, price, delivery men info and their payment.
10. **Plover (2019)[Link]**
    Features: It is an online chatting application based on whatsapp idea.
    Technologies: Java, gradle, firebase, Xml, UI/UX, play store, admob, Application LifeCycle
11. **Water quality monitoring at Kaptai Navy camp (2019)[Link]**
    Features: It is a real-life project for monitoring water quality at Navy.

Leadership Experience

1. **Joint General Secretary at Robo mechatronics Association** August 2018 - September 2019
2. **Instructor**, Conducted 3-day workshop on Basic electronics and IoT technology August 2019

Extra Curriculum Activities And Awards

- **1st Runners Up** at Intra University Tech Carnival, Organized by "CUET Students' Union" 2016

- Organizing Committee at CUET Computer Club 2018 - 2019
- Volunteer at Inter University Robotic Competition, RMA, Bangladesh" September 2018
- Organizing Committee (Inter-university programming contest at CUET) September 2017

Awards

- Bangladesh's Recovery Idea and Plan in the Post COVID-19 Era: Youth Perspective at Youth Opportunities (june 2020)
- **1st Runners Up** Intra University Tech Carnival, Organized by "CUET Students' Union" 2016
- **EDF Award** for outstanding reslt in SSC 2012 by Education development forum.
- **The Daily Prothom Alo Award** GPA-5 Holder in both SSC 2012 and HSC 2014, by "The Daily Prothom Alo"
- Compensatory Scholarship from Chittagong University of Engineering and Technology (CUET), Chittagong
- **Shutter Stories chapter 3 Award** A National photography Exhibition at United International University (2018)
- **Revealing the Unseen -Srason iii Award** A National photography Exhibition at Chittagong University of Engineering & Technology (2019)

References

1. Rifatul Islam,
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