

PERSONAL INFORMATION



Md Mashrur Sakib Choyon

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EDUCATION AND AFFILIATIONS

8/01/2017 – 29/11/2020

BSc in Electrical and Electronic Engineering

American International University-Bangladesh (AIUB), Dhaka, Bangladesh

- Undergraduate Capstone Project Title: "IoT Based Interactive Smart Assistant System" (Dean's Award Winner and Vice-Chancellor Award Nominee).

- Completed the whole Undergraduate Study with Merit-Based Academic Scholarship.

CGPA: 3.75 on a scale of 4.00.

12/2020 – Current

Independent Researcher

- Under the guidance of Professor Dr. Heung Gyoon Ryu, Chungbuk University, South Korea.

12/2020 – Current

Development Engineer (Remote Contract) - SAMT Wireless, Montreal, Canada

RESEARCH & PROJECT EXPERIENCE

09/2019 – 09/2020

IoT Based Interactive Smart Assistant System

- Undergraduate Capstone Project where an IoT based information Kiosk was developed from the perspective of the university.

- A plug & play smart system where hardware combinations of Raspberry Pi, Arduino Module, Pi Camera, Touchscreen Display, Multiple Sensors, etc. were used. Computer Vision was used for image processing to detect users while identifying their gender, age, emotions, etc. could be detected. Database for the organization was developed using MySQL, phpMyAdmin, and JavaScript. A mobile was developed using Android Studio.

- Significant Developed Features:** Database, Image Processing, Custom OS, Interactive UI, Voice Assistant, 3D Map, Machine Learning, Information Search, Biomedical and Environmental Data Collection, Replacement for any organization's reception desk.

09/2020 – 10/2020

Design of a Polymer Based On-Skin Temperature Sensor

- Developed a Sensor for Biomedical Purposes using low-cost materials: Graphite, Copper, Silicon, Paper, etc.

04/2020 – 09/2020

IoT Based Health Monitoring System to Confront COVID-19

- A low-cost health monitoring system merged with a machine learning algorithm amidst the COVID-19 pandemic that can predict the rate of coronavirus present in a human body and also enable healthcare professionals to provide their service remotely.

11/2019 – 12/2019

VLSI based Design and Implementation of a 4-bit Carry Skip Adder

- Integrated circuit design in Cadence - VLSI Tool

6/2017 – 12/2019

Other Projects

- Mobile Charging Power Bank • Hand Gesture Recognition Robot • Line Following Robot • Logic Gate IC Based Tic-Tac-Toe Game Board • Traffic Controlling Light System • MATLAB Based Noise Removing Voice Recorder • Wireless Power Transfer Module • Analog to Digital Signal Converter • Python Programmed Word Cloud Generator

PUBLICATIONS

2020

An Interactive Low-Cost Smart Assistant System: Information Kiosk as Plug & Play Device [\[IEEE Xplore Link\]](#)

- A. M. H. Sad, M. M. S. Choyon, A. H. M. Rhydwan and C. A. Hossain, 2020 27th Conference of Open Innovations Association (FRUCT), Trento, Italy, 2020, pp. 193-199, doi: 10.23919/FRUCT49677.2020.9211057.
- 2020 **Design of a Polymer Based On-Skin Temperature Sensor** [Accepted, Presented & To be Published in IEEE Xplore]
M. M. S. Choyon, M. H. Sad, A. H. M. Rhydwan, K. Shikder, and C. A. Hossain, 2nd International Conference on Robotics, Electrical and Signal Processing Techniques 2021 (ICREST'21); Jan 5-7, 2021.
- 2020 **IoT based Health Monitoring & Automated Predictive System to Confront COVID-19** [Accepted, Presented & To be Published in IEEE Xplore]
M. M. S. Choyon, M. Rahman, M. M. Kabir and M. F. Mridha, IEEE 17th International Conference on Smart Communities: Improving Quality of Life using ICT, IoT and AI (IEEE HONET 2020 Conference), Charlotte, North Carolina, USA; Dec 14-16, 2020.
- 2020 **Smart Grid Implementation with Consortium Blockchain- A Proposed Model for Bangladesh** [Accepted, Presented & To be Published in IEEE Xplore]
A. H. M. Rhydwan, M. M. S. Choyon, M. N. Iftekhar, A. M. H. Sad and D. D. Nandi, International Conference on Emerging Technology in Computing, Communication, and Electronics; Dec 21-23, 2020.
- 2021 **Nekray: A Linux Kernel Based Custom Operating System for Information Kiosks** [Journal Paper Under Review]
A. M. H. Sad, M. M. S. Choyon, A. H. M. Rhydwan, K. Shikder, and C. A. Hossain, International Journal of Embedded and Real-Time Communication Systems (IJERTCS).

HONOURS AND AWARDS

- 01/2021 **1st Position (Best Poster Award)** – 2nd International Conference on Robotics, Electrical and Signal Processing Techniques 2021 (ICREST'21)
▪ Presented a Poster on the topic titled, 'Design of a Polymer Based On-Skin Temperature Sensor'.
- 09/2020 **Best Demo Award** - 27th Conference of Open Innovations Association (FRUCT), Trento, Italy
▪ Presented a Pecha-Kucha presentation on the demo of a project titled, 'An Interactive Low-Cost Smart Assistant System: Information Kiosk as Plug & Play Device'.
- 08/2020 **Dean's Award** - American International University-Bangladesh
▪ Best Undergraduate Capstone Project.
- 08/2020 **Vice-Chancellor Award (Nominee)** - American International University-Bangladesh
▪ Best Undergraduate Capstone project in the whole academic year and ranked among top-9 out of 200 Capstone Projects
- 2017 – 2020 **Dean's List Honors** - American International University-Bangladesh
▪ Achieved **4 times** for Outstanding Academic Performances in 4 years of Undergraduate Study.
- 2017 – 2020 **Merit-Based Academic Scholarship** - American International University-Bangladesh
▪ Completed the entire undergraduate study with scholarship based on merit-based academic performance
- 11/2017 **Assessor in IT Support Technician** - Bangladesh Technical Education Board
▪ Successfully completed the Training and Evaluation for the sector under the National Technical and Vocational Qualification Framework.

DIGITAL SKILLS

- Python Programming Language • C, C++ • Adobe Photoshop • Adobe Lightroom • Multisim • Proteus • Basic Linux • AutoCAD • MATLAB • MATLAB Simulink • Arduino IDE • COMSOL Multi-Physics • Verilog • VHDL • Cadence Virtuoso (VLSI) • Microsoft Office (Word, Excel, Powerpoint) • PCB Designing • Single layer PCB Fabrication and Soldering • GitHub • Eagle CAD

LANGUAGE SKILLS

Other language	UNDERSTANDING		SPEAKING		WRITING
English	Listening	Reading	Spoken interaction	Spoken production	
IELTS Band Score	C1	C1	C1	C1	C1
	OVERALL	LISTENING	READING	SPEAKING	WRITING
	7.0	7.5	7.0	6.5	7.0

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

SELECTED CERTIFICATION

04/2020 – 09/2020	Google IT Automation with Python – Specialization [Certificate]
08/2020	Science of Well Being [Certificate]
07/2020	Industrial IoT on Google Cloud Platform [Certificate]
07/2020	Introduction to OpenCL on FPGAs [Certificate]
09/2020	PCAP: Programming Essentials in Python
06/2020	Programming for Everybody (Getting Started with Python) [Certificate]
11/2016	National Skill Certificate in IT Support Technician
02/2016	Quantum Method Meditation Course

CO-CURRICULAR EXPERIENCE

02/2020 – 02/2021	Vice-Chairperson (Technical) - IEEE AIUB Student Branch <ul style="list-style-type: none"> Setting Objectives, Decision Making, and Leading the Student Branch in various activities.
02/2020 – 02/2021	Vice-Chairperson - IEEE Engineering in Medicine and Biology Society AIUB Student Branch Chapter <ul style="list-style-type: none"> Organized numerous EMBS events including a distinguished lecture by an IEEE Fellow.
02/2019 – 02/2020	Event Designer - IEEE AIUB Student Branch <ul style="list-style-type: none"> Led and organized more than 34 events and boosted membership drive up to 50%.
02/2019 – 02/2020	Secretary - IEEE Engineering in Medicine and Biology Society AIUB Student Branch Chapter. <ul style="list-style-type: none"> Organized numerous biomedical related events for the student branch
2018 – 2019	Ambassador <ul style="list-style-type: none"> 2020 Rising Star Conference, Las Vegas, Nevada, USA IEEE madC IEEE PES Zero Hunger Day 2019 Smart City Campaign, IEEE Bangladesh Section
2019 – Current	Brand Ambassador - IEEE
02/2018 – 02/2019	Volunteer (Event Coordinator) - IEEE AIUB Student Branch <ul style="list-style-type: none"> Organized more than 18 events and carried out voluntary works for the student branch.
2019 – Current	Quanteer (Volunteer for Humanitarian Activities) - Quantum Foundation <ul style="list-style-type: none"> Carried out many humanitarian activities including a medical camp in rural mountain areas, blood donation camp, burying dead bodies with proper rituals & respects that were left behind by their relatives fearing COVID-19, etc.

NETWORK & MEMBERSHIP

2017 – Current	IEEE Student Member
2020 – Current	IEEE Computer Society (CS) Student Member
2020 – Current	IEEE Young Professionals Member
2020 – Current	IEEE Consumer Technology Society Student Member
2019 – Current	IEEE Engineering in Medicine and Biology Society (EMBS) Student Member
2016 – Current	Quantum Foundation Member (Meditation and Humanitarian Activities)

REFERENCES

Supervisor of Final Year Capstone Project	Chowdhury Akram Hossain, <i>SM/IEEE</i> Senior Assistant Professor, Department of EEE & CoE, Faculty of Engineering, AIUB; Special Assistant, Office of Student Affairs, AIUB; Member, MGA Training Committee, IEEE; Email: chowdhury.akram@aiub.edu Mobile: (+880) 1714112302	2nd Year DLD Course Teacher and Advisor of IEEE AIUB SB	Prof. Dr. Md. Abdur Rahman, <i>SM/IEEE</i> Associate Dean, Faculty of Engineering, AIUB; Vice-Chair (Activity), IEEE Bangladesh Section; Syndicate Member, AIUB; Academic Council Member, AIUB; Email: arahman@aiub.edu Mobile: (+880) 1710921974
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