

NAZMUS SHAKIB SAYOM

RESEARCHER AND FULL-STACK SYSTEM ENGINEER

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ABOUT ME

A full-stack system engineer specializing in Embedded Systems, IoT, and Deep Learning. Engaged in teaching to enrich knowledge and dedicate energy and skills to research works. Looking for Ph.D. positions in related fields.

EDUCATION

American International University-Bangladesh

BSc. in CSE | 2017 - 2020

- CGPA 3.96 out of 4.00
- Summa Cum Laude
- Dean's List Award Spring, 2019
- Dean's List Award Fall, 2019

WORK EXPERIENCE

Lecturer, Dept. of ETE/ICE

Daffodil International University | January 2022 - present

- Teaching
 - Embedded System Design
 - Operating Systems.
 - Artificial Intelligence and Neural Network
- On active research in IoT Lab on Embedded Hardware and TinyML.

Embedded Systems Engineer

Hellotask | December 2020 - December 2021

- Designed and prototyped an IoT-enabled distributed advertising platform.
 - Raspberry Pi, ESP32, GSM, GPS, NestJS, SocketIO, Next.js, Hasura
- Developed a full-stack voice call broadcasting platform
 - NestJS, TypeORM, Vue.js, Alpine.js
 - Alpha release live on: dev.manydial.com
- Designed and prototyped an IoT self-checkout general-purpose vending machine.
 - Raspberry Pi, Flask, SocketIO, RFID, PIR-sensor

Embedded Systems Engineer (Contractual)

Riseup Labs | June 2020 - December 2020

- Designed and prototyped a voice command-enabled remote controller for Walton Android TV.
 - Arduino, nRF24, IBM Watson speech to text API.
 - GitHub: <https://github.com/nsssayom/VoiceRemoteTx>
- Helped to maintain legacy backend applications.

Teaching Assistant (Internship)

- AIUB | January 2020 - May 2020
- Teach and demonstrate Java Programming Language to undergrad students.

PUBLICATIONS

Bridge Crack Detection Using Dense Convolutional Network (DenseNet)

Conference Paper | [ICCA 2022](#) | March 2022

A Deep Convolutional Neural Network-Based Approach to Classify and Detect Crack in Concrete Surface Using Xception.

Conference Paper | [IC4IR 2021](#) | October 2021

RESEARCH WORKS

Disaster Victim Tracking and Rescue Support System with Failsafe Multilayer Communication Networks

Undergrad Thesis | May 2020

- ESP32, Node.js, LoRaWAN, BLE, GSM
- GitHub: https://github.com/nsssayom/last_hope

Realtime Indoor Positioning System Using Wireless Access Points

Final Paper for Advanced Computer Networking Course | January 2020

- [Read in academia.edu](#)

PERSONAL PROJECTS

OpenGaze: Web Service Wrapper for OpenFace Facial Behaviour Analysis Toolkit

Personal Project | October 2021

- C++, Python, FastAPI, OpenFace, OpenCV
- GitHub: <https://github.com/nsssayom/OpenGaze>

Depen: A Handheld OCR and Word Definition Device

Human-Computer Interaction | January 2020

- Raspberry Pi Zero, I2C and SPI OLED Display, Python, OpenCV, WordNet Lexical Database
- GitHub: <https://github.com/nsssayom/DePen>
- YouTube Demo: https://www.youtube.com/watch?v=K_XhoaMd00A

TALK-E: A 2.4GHz Long Range Digital Walkie Talkie

Personal Project | June 2020

- nRF24L01+, Arduino, Audio Drivers, and Pre-amps
- GitHub: <https://github.com/nsssayom/TALK-E>

Dancing Bees: A Data Visualization Application to Plot Flight Paths of Honey Bees

Data-Visualization | August 2020

- Python, OpenCV
- GitHub: <https://github.com/nsssayom/dancing-bees>

Theia: An OpenCV-based Enterprise solution to evaluate MCQ Bubble Sheets

Traditional Image Processing | 2017

- C++, VB.NET, OpenCV
- GitHub: https://github.com/nsssayom/Theia_OMR_Scanner

TECHNOLOGIES FAMILIAR WITH

Languages

C/C++, Python, JavaScript, TypeScript, Java, C#, Visual Basic.NET, PHP, HTML, CSS

Backend Frameworks

Node.js, NestJS, Express, Fastify, TypeORM, Flask, FastAPI, Hasura

Frontend Frameworks

Next.js, React, Vue.js, Alpine.js, Bootstrap, Bulma

OSs, DBs, Tools and Platforms

Linux, RTOS, Git, MySQL, PostgreSQL, Nginx, AWS, Twilio, Basic Networking

PCB Design

Proteus, Fritzing

MCUs

AVR, STM-32

SoCs

Raspberry Pi, Nvidia Jetson, ESP32

Embedded Frameworks

PlatformIO, Arduino

Communication

GSM, GPS, LoRa, nRF24

AWARDS

- AIUB CS Fest 2017 Champion on App Development
- AIUB Physics Quiz 2017 Champion
- Runners up, RU BFDC Freshers' Debate Competition, 2016
- Champion, CPSCR Inter-House Debate Competition 2014

REFERENCES

Prof. Dr. Tabin Hassan

Professor & Head, Graduate Program (CS),

Computer Science AIUB

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Hasan Basri Angel

Senior Software Engineer,

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