NAZMUS SHAKIB SAYOM

CS EDUCATOR AND FULL STACK SYSTEM ENGINEER

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ABOUT ME

A full-stack software developer specializing in Embedded Systems, IoT, Deep Learning, and Distributed Computing. Currently pursuing a teaching career to enrich my knowledge and to dedicate my energy and skills for the betterment of students as well as the institution.

EDUCATION

American International University-Bangladesh
BSc. in CSE | 2017 - 2020
- CGPA 3.96
- Summa Cum Laude
- Dean's List Award Spring, 2019
- Dean's List Award Fall, 2019

Lalmonirhat Govt. College
HSC from Science | 2015
- GPA 5.00

Lalmonirhat Govt. High School
SSC from Science | 2013
- GPA 5.00

WORK EXPERIENCE

Lecturer, Dept. of ETE/ICE
Daffodil International University | January 2022 - present
- Teaching
  - Embedded System Design
  - Operating Systems.
- On active research in IoT Lab on Embedded Hardware and TinyML.

Embedded Systems Engineer
Hellotask | December 2020 - December 2021
- Designed and prototyping 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.

RESEARCH WORKS

A Deep Convolutional Neural Network-Based Approach to Classify and Detect Crack in Concrete Surface Using Xception.
Submitted for IC4RB 2021 | October 2021

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
Academic Paper for Advanced Computer Networking Course | January 2020

Traffic Light Control Assistance for an Isolated Intersection in Dhaka City
Academic Paper for Research Methodology Course | May 2019

PERSONAL PROJECTS

OpenGaze: Web Service 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

Earth and Fire: A Deep Learning-Based Wildfire Forecasting Application
NASA Space App Challenge 2017 | April 2017
- Python, OpenCV, Tensorflow, PHP, JavaScript, PhoneGap
- GitHub: https://github.com/arman-bd/earth-and-fire

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

Flight Delay Predictor Using Gradient Boosting
Academic Project | January 2020
- Python, TensorFlow
- GitHub: https://github.com/nsssayom/flight_delay_predictor

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
tabin@aiub.edu

Hasan Basri Angel
Senior Software Engineer,
Rakuten Group, Inc.
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