

KHANDAKAR AMIR HOSSAIN

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UvA amir_ice_1516_iu [amir-ice-1516-iu.github.io](#) [Incheon Knowledge Industry Center,](#)
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WORK EXPERIENCE (5 years)

Chief Researcher:

Sanion Co Ltd. (South Korea)

■ 13th Nov 2023 - Present (~2 year)

- Working with R&D team in developing clean code for Embedded Linux
- R&D on performance improvement of IEC61850-9-2 on Merging Unit
- Learning different protocols for substation automation devices(IED,MU)

IoT Intern-->Jr IoT Software Engineer-->IoT Software Engineer:
Nybbles Systems Limited (NybSys Pvt. Ltd. - Bangladesh)

■ 1st March 2020 - 31st October 2023 (~4 years)

- Worked with IoT team in developing clean code for Embedded Linux
- R&D on performance improvement for different IoT Gateway products
- Learned sensor data harvesting and different protocol mechanisms
- Upgraded existing firmware with some security issue and major bug fix
- Developed automation tools and GUI to enhance productivity for some boring repetitive tasks.

LEARNING & CERTIFICATIONS

• **Python for Data Science and AI:** [View](#)

An online course organized by **IBM** and offered through **coursera**.

• **Mathematics for Machine Learning:** [View](#)

An online specialization (3 courses) organized by **Imperial College London** and offered through **coursera**.

1. **Linear Algebra.** [View](#)

2. **Multivariate Calculus.** [View](#)

3. **Principle Component Analysis(PCA).** [View](#)

• **IBM AI Engineering :** [View](#)

An online non-credit professional training (6 courses) organized by **IBM** and offered through **coursera**.

1. Machine Learning with Python. [View](#)

2. Scalable Machine Learning on Big Data using Apache Spark. [View](#)

3. Introduction to Deep Learning & Neural Network with Keras. [View](#)

4. Deep Neural Networks with PyTorch. [View](#)

5. Building Deep Learning Models with TensorFlow. [View](#)

6. AI Capstone Project with Deep Learning. [View](#)

HANDSON TECHNOLOGIES

Chips/Socs/Boards: Jetson Tx2/Nano, Raspberry Pi 2/3/4 ,
STM32MP157C, Esp-32/8266, Arduino Uno, Zynq7020(FPGA)
Arduino Mega 2560, STM32F103C8T6, SIM800L, SIM5300E

Software Tools & IDE: Eagle, Proteous, EasyEda, Circuit Maker,
STM32CubeIDE, VS Code, Spyder, Arduino IDE,
FrameWorks: FreeRTOS , Petalinux (for Zynq7020)

REMARKABLE PROJECTS

• Thesis : “**Relative comparison between different machine learning algorithms for criminal offense detection and immediate response on the event using intelligent IoT devices**”

• **NybSys LMR Gateway (NS_LMRG100)** [View IWCE Expo 2021](#)

Designed, Developed, Tested & Deployed NS_LMRG100. [View Demo 2](#)

• **NybSys Smart Poultry Farm Automation.** [View](#)

Developed, tested & Deployed NSPF100 gateway & sensor nodes

• **NybSys Water ATM (B2B for Drink Well)** [View](#)

Upgraded the existing firmware to Version 3.1 & added new features

• **NybSys IoT Gateway (IG100)** [View](#)

Upgraded the existing firmware to Version 2.1 & added new features

• **NybSys Sentra Dispatch to Multicast Gateway (BackEnd Tool)**

Developed & Tested the tool that will run in the backend for scalability.

• **Weapon (Gun) Detection and Elimination**

For jewellery Shops and Bank Security :(Using ML & IoT) [View](#)

EDUCATION

M.Sc.(Engg) in ICT

Islamic University, Bangladesh.

■ 2021 - 2023

CGPA: 3.24/4.00

B.Sc(Hons) in ICT

Islamic University, Bangladesh.

■ 2016 - 2020

CGPA: 3.31/4.00

Higher Secondary School Certificate

Dinajpur Government College

■ 2013 - 2015

GPA: 4.83/5.00

Secondary School Certificate

Maharaja Girijanath High School

■ 2011 - 2013

GPA: 5.00/5.00

PROGRAMMING SKILLS

Languages: Python3,C,C++,Embedded C
, Bash-Linux Shell Scripting.

Machine Learning: Numpy, Pandas, PyTorch
Tensorflow, Scikit-Learn, SciPy, matplotlib
OpenCV, Apache Spark, Keras.

Network Programming: TCP/UDP, MQTT, RTP

IEC61850-9-2, IEC61850-8-1

Web FrameWork: Django

Scalability&Deployment: Docker, Unicorn

Database: MySQL, PostgreSQL, SQLite3

AI Tools Applied: Statistical Modeling,**SVM**,
Neural Networks,Classification,Clustering
Generative Adversarial Networks(GAN).

SOFTWARE SKILLS

- **Class , ER & Sequence Diagram generation.**
- **S O L I D design patterns in practice.**
- **Object Oriented Programming.**
- **Clean & Standard Coding Practices.**
- **Multi Processing/ Threading.**
- **Event Handling.**
- **Inter Process Communication.**
- **Repetitive Task Automation.**
- **Dead Lock Prevention Precautions.**
- **Distributed Version Control with Git.**

PASSIONATE ABOUT

I want to play with cutting edge technologies and deploy my knowledge in building reliable solutions that will add value to the global economy by enhancing comfortability in our daily life.

REFERENCES

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@ New Technology - Team Lead at Sanion

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