

# KHANDAKAR AMIR HOSSAIN

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UvA amir\_ice\_1516\_iu [amir-ice-1516-iu.github.io](#) 📍 Apt. N:1314, Bluetech, 158 Bodeum 6-ro, Seo-gu,  
Incheon, South Korea.



## WORK EXPERIENCE ( ~4 years )

Firmware Developer:

**Sanion Co Ltd. ( South Korea )**

📅 13<sup>th</sup> Nov 2023 - Present (6 months)

- Working with HW 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)**

📅 1<sup>st</sup> March 2020 - 31<sup>st</sup> October 2023 (3 years 7 months)

- 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 really cool features
- 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

**Development Boards:** Jetson Tx2/Nano, Raspberry Pi 2/3/4 , STM32MP157C, OpenMV, Esp-32/8266, Arduino Uno, Arduino Mega 2560, STM32F103C8T6, SIM800L, SIM5300E

**Software Tools & IDE:** Eagle, Proteous, EasyEda, Circuit Maker, Keil, STM32CubeIDE, VS Code, Spyder, Arduino IDE, **FrameWorks:** FreeRTOS

## 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  
Java, **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

**ML Algorithms:** 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

**Moshtaq Ahmed**

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