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NGUYEN ANH HUY

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I am a high IQ engineer/researcher (top 10%). I can learn very quickly and adapt to the requirements of new projects. My previous physics education gives me a critical thinking mindset and endurance when facing difficult problems. I have a wide range of knowledge, such as electrical circuit design, network protocol, machine learning, and blockchain.

EDUCATION

Degrees:

- High School: **High School for the Gifted** (Pho Thong Nang Khieu) (2003)
- Bachelor: **University of Science HCMC**-Physics & Computer department (2007)
- Master: **University of Science HCMC** – Electric and telecommunication (2011)
- Ph.D.: **Osaka Prefecture University** - Computer Science and Intelligent Systems (2019)

Scholarships:

- Scholarship of **University** 2003-2004, 2004-2005, 2005-2006.
- Scholarship of **Mitsuba company** 2006.
- Scholarship for **doctor course at Osaka Prefecture University**, Japan, 2016.

TOOLS & TECHNOLOGIES:

- **Language**: Main: Rust, Python, Matlab, C++.
  Others: Verilog, Assembly, Shell script, JavaScript, PHP, Mathematica…
- **Frameworks**: Flask, Warp
- **Infrastructure**: AWS, google cloud, Docker,

SKILLS AND KNOWLEDGE

- Designing system architecture
- Blockchain (Polkadot, Solana, Ethereum)
- Data science fundamentals, machine learning operationalization
- Has fundamental knowledge of Machine learning algorithms, Neuron networks.
- Languages: Vietnamese, English, Japanese

LEARNING ACTIVITIES

- "*Robocon 2006*": programmed a robot to detect lines, move plastic blocks, and put them in specific places. The program used **Assembly and C** language.
- Bachelor thesis: "***Design thermometer that connects to computer through USB port using microcontroller PIC4550***". Result **10/10**.
- Master thesis: "***Design SOPC on FPGA for Compressing JPEG Image***".
- Ph.D. Thesis: "**Improve performance and fairness in heterogeneous periodic multi-hop wireless sensor networks.**" Used C++, Python, AWK, and Bash script to simulate the multi-hop network on Qualnet software. The result is published in scientific journals and conferences.

WORKING EXPERIENCE:

BACKEND BLOCK-CHAIN DEVELOPER — **May 2020 – current**
AT CODELIGHT COMP. (**The first engineer**) — (02 years and 05 months)

Project: Multichain (Solana/Ethereum/Polkadot) Indexing (Massbitprotocol)
Description:
Mining data from the fastest blockchain. Tech: Solana, Rust, Redis, block-chain, AWS, Docker.

Responsibility:
Design and implement a real-time system for handling big data (millions of records per day).

Achievements: Solana Hackathon Award

Project: CDN for block-chain (MassbitRoute)
Description:
Create a fast, reliable connection between the end-user and the blockchain nodes. Tech: Rust, Postgres, block-chain, google cloud, docker.

Responsibility:
Design and implement a system for checking each node/gateway in the system working correctly.

Achievements: Web3 Foundation Grant (Highest level)

Project: Banking KYC
Description:
Face detection and recognition, face pose detection, Liveness detection, ID card information extraction. Tech: AI, Python, Redis, Flask, Pytorch
Responsibility: Research, get data, and apply the model for a KYC process.

RESEARCHER — **Apr 2019 – Apr 2020**
AT 山本金属製作所 COMP. — (01 year)

Project: Cool-i (https://yama-kin.co.jp/products/cool-i)
Description: Read data from sensor; send data to gateway; send data to database; display data on Web app; detect abnormal status and send a warning to users, 2019
Responsibility: Developer
Technologies: Micro Controller, Raspberry Pi, C++, Python, MySQL, PHP, JavaScript, HTML.

SOFTWARE DEVELOPER (part-time) — **2009 – 2016**
AT THINKTODO COMP. — (07 years)

1. Project name: RemoteHub
   - Project description: create a remote hub that could replace all remotes of home devices (TV, DVD, air-condition). The hub control by phone. 2013.
   - Responsibility: Developer
   - Technologies: micro Controller, C++

2. Project name: SmartFan
    - Project description: integrates playing music function and remoting control of the smart fan by WIFI, 2013.
    - Responsibility: Developer
    - Technologies: micro Controller, C++
3. Project name: Bus Tracker
    - Project description: create a circuit that detects location (GSM) and informs customers of the bus's schedule, 2014.
    - Responsibility: Developer
    - Technologies: micro Controller PIC, GSM, C++
4. Project name: Motorbike Tracker
    - Project description: creates a circuit that detects location (GPS) and controls the motorbike by phone, 2015.
    - Responsibility: Developer
    - Technologies: micro Controller PIC, GPS, C++
5. Project name: SmartPlug
    - Project Description: controls/reads status of the smart plug over the internet or time schedule, 2016.
    - Responsibility: Developer
    - Technologies: micro Controller ESP8266, MQTT, C++

PUBLICATIONS

(At Osaka Prefecture University (2016-2019))

Journals

1. A. H. Nguyen, Y. Tanigawa, and H. Tode. Adaptive channel access control solving compound problems of hidden nodes and continuous collisions among periodic data flows. *IEICE Transactions on Communications*, 2019

2. A. H. Nguyen, Y. Tanigawa, and H. Tode. Scheduling method for solving successive contentions of heterogeneous periodic flows based on mathematical formulation in multi-hop WSNs. *IEEE Sensors Journal*, 18(21):9021–9033, Nov 2018

Conferences

1. A. H. Nguyen, Y. Tanigawa, and H. Tode. Channel access control for collisions caused by hidden nodes and phase synchronization among periodic data flows. In *Proc. 2019 16th IEEE Annual Consumer Communications Networking Conference (CCNC)*, January 2019

2. A. H. Nguyen, Y. Tanigawa, and H. Tode. Scheduling methods to improve the performance of heterogeneous periodic flows in wireless sensor networks. In *2017 IEEE 42nd Conference on Local Computer Networks (LCN)*, pages 571–574, Oct 2017

SOCIAL ACTIVITIES:

"*The Green Summer*" (2004 and 2005).