

NATCHAPOL PATAMAWISUT

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EDUCATION

- BS** King Mongkut's University of Technology Thonburi, Computer Engineering
GPA 3.80, Rank 2nd in the program
Specialization: generative ai, quantum computing, machine learning, operation research, algorithm design, and cryptography
- Udacity, Data Engineering Nanodegree
Learn to design data models, build data warehouses and data lakes, automate data pipelines, and work with massive datasets

IELTs score 7.0

EXPERIENCE

Freelance

Position, AI Developer

01-2023 to current

- Projects
 - Chat with Documents: Documents Chatbot using LLM and RAG
 - Interactive AI Chatbot with Avatar
 - Exercise Action Prediction: Predicting which exercise user is doing
 - Develop a new TTS system on English, Chinese, Japanese and Thai

Quantum Computing and Information Research Centre (QX),

King Mongkut's University of Technology Thonburi

08-2020 to 12-2023

Position, Research assistant, **Supervisor:** Asst.Prof. Rajchawit Sarochawikasit

- Researching on quantum optimization, quantum communication, and quantum benchmarking
- Supervising and monitoring junior researchers
- Assisting in quantum computing courses

Botnoi Consulting Co., Ltd.

08-2020 to 06-2022

Position, Data science tutor

- Teach data science courses in 4 modules. machine learning basics, predictive models, trend forecasting, and recommendation system

Quantum Optics and Spintronics Laboratory, DP,

Thammasat University

06-2021 to 08-2021

Position, Research intern

- Research on continuous-variable quantum neural network and implement with real-world dataset.

AVA Advisory limited

06-2020 to 08-2020

Position, Data scientist intern

- Develop deep learning model for tracking stock patterns with Pytorch.
- Research on state-of-the-art methods for pattern recognition.

ACTIVITIES

IBM Quantum Qiskit community, Thailand

08-2022 to current

Position, Qiskit Advocate

- Organizing quantum technology events of Qiskit in Thailand
- Sharing knowledges of quantum technology to communities

Bangmod Blockchain Club

06-2021 to 06-2022

Position, Leader

- Organizing many Blockchain events in KMUTT community.
- Encourage community to learn about Blockchain technology.

Microsoft Learn Student Ambassadors

08-2019 to 06-2022

Position, Beta Microsoft Learn Student Ambassadors, KMUTT leader

- Organizing Microsoft's events in KMUTT community.
- Encourage community to build their technical skills with Microsoft Learn.

PROJECT

Research and Comparison of Quantum Gradients

- Research about Quantum gradient methods.
- Implementing Quantum gradient methods with PennyLane.
- Comparing Quantum gradient methods with defined metrics.

Quantum Generative Adversarial Networks (QuGANs) implementation with Quantum Natural Gradient

- Research about how QuGANs works.
- Implementing QuGANs with PennyLane.
- Comparing learning methods of QuGANs.
 - Gradient Descent
 - Quantum Natural Gradient Descent

Implementation of Continuous-variable Quantum Neural Network

- Research about how Continuous-variable Quantum Neural Network works.
- Implementing Continuous-variable Quantum Neural Network with PennyLane.
- Using Continuous-variable Quantum Neural Network with Titanic dataset.

Machine Learning Energy Management, IoT devices and mobile application

- Using ESP32 for creating IoT energy monitoring devices.
- Create React Native mobile application and visualize data from IoT devices.
- Using LSTM for time series energy usages prediction.
- Award - Honorable mention from Top Innovations For Living Competitions 2020.

Thai MNIST handwritten digits image classification competition

- Using ensemble method to do image classification.
- 2nd ranking in Kaggle competition with MEA score 0.2.

DD Dinner Dog, Tinder for Dog Web Application

- Web application for finding dog's friend or partner.
- Backend using ExpressJS.
- Frontend using ReactJS.

Dashboard for Monitoring and Signaling Elder's Heart Disease

- Using data visualization, the dashboard uniquely communicates metrics visually to help users understand complex relationships in elder's activities data.

- Machine learning is used to measure elders' heart disease risk, send this information to display on the dashboard.
- Using data engineering techniques for designing data pipeline with ETL workflow.

CERTIFICATIONS

IBM Certified Associate Developer - Quantum Computation using Qiskit v0.2X

- Certification for passing C1000-112 - Fundamentals of Quantum Computation Using Qiskit v0.2X Developer exam.
- Proof knowledge of
 - Defining, executing, and visualizing results of quantum circuits using the Qiskit SDK.
 - Understanding single-qubit gates and their rotations on the Bloch sphere.
 - Understanding various multi-qubit gates and their effects in quantum circuits.
 - Leveraging fundamental Qiskit SDK features including commonly-used classes and functions located in qiskit.circuit, qiskit.execute, qiskit.providers, qiskit.qasm, qiskit.quantum_info, qiskit.tools, and qiskit.visualization packages.

Azure Fundamentals (AZ-900)

- Certification for passing AZ-900 exam.
- Proof knowledge of cloud concepts, Azure services, Azure workloads, security and privacy in Azure, and Azure pricing and support

TensorFlow Developer Certification

- Certification for passing TensorFlow Developer Certification exam.
- Understanding of building TensorFlow models using Computer Vision, Convolution Neural Networks, Natural Language Processing, and real-world image data and strategies

SKILLS

- Generative AI
 - LLM, TTS, ComfyUI, LangChain
- Data engineering
 - Data pipeline, Data modeling, Database design, Cloud computing
 - TensorFlow, Pytorch, OpenCV, Spark, Airflow, PowerBI
- Programming languages
 - Python, JavaScript, C/C++, R, SQL, MatLab
- Software engineering
 - React, ElectronJS
 - Flask, Django, Express, NodeJS
 - Git, Docker, CI/CD, Scrum