# NATCHAPOL PATAMAWISUT

Phone: (085) 155-3544
Email: natchapol.pat@gmail.com Github: BankNatchapol
Medium: blue-natchapol Linkedin: natchapol-patamawisut
13/33 Nanthawan Bangpai
Bangkae Bangkok 10160

## EDUCATION

**BS** King Mongkut's University of Technology Thonburi, Computer Engineering
GPA 3.78

- Udacity, Data Engineering Nanodegree
  Learn to design data models, build data warehouses and data lakes, automate data pipelines, and work with massive datasets.

## EXPERIENCE

**Botnoi Consulting Co., Ltd.** 08-2020 to current
**Position**, Data science tutor

- Teaching data science course 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 implementing 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 method for pattern recognition.

## ACTIVITIES

**Qiskit Documentation Localization Project** 11-2021 to current
**Position**, Team Lead for Thailand Translation

- Organizing Thailand translation team.
- Translating Qiskit documentation content into Thai language.

**Bangmod Blockchain Club** 06-2021 to current
**Position**, Leader

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

**Google Developer Student Club** 09-2020 to current
**Position**, Core team

- Organizing Google's events in KMUTT community.
- Sharing knowledge of Google's technologies to community.

**Microsoft Learn Student Ambassadors** 08-2019 to current
**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

- Quantum computing
    - Continuous-variable, BQM, QAOA, Quantum gradient, Quantum walk
    - Qiskit, PennyLane, Strawberry Fields
- 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, Solidity
- Software engineering
    - React Native, React
    - Flask, Django, Express, NodeJS, Smart Contract
    - Git, Docker, CI/CD, Scrum
- Internet of Things
    - DAQ, ARMs, LabView, Raspberry Pi