

# Pongchanok Nuamteam

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## EDUCATIONS

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### Master of Electrical Engineering

King Mongkut's University of Technology Thonburi

1 Jan 2022 - Present  
Bangkok, Thailand

- *Deep Learning, Image Processing and Computer Vision, Optimization Techniques, Probability and Stochastic Processes*

### Bachelor's of Electronics and Telecommunication Engineering

King Mongkut's University of Technology Thonburi

14 August 2017 - 15 July 2021  
Bangkok, Thailand

- *Computer Programming, Software Engineering, Probability and Statics, Machine Learning*

## WORKING EXPERIENCE

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### Electrical Engineer Internship

Seagate Technology (Thailand) Co. Ltd

#### Inventory Management System

Build a web demo for stock management using React.js as the frontend, Node.js (Express) as the backend, and SQL as the database. There are approximately 300 products in the small warehouse. then visualize all the data to make a report.

- Classify products into a table, collect the data by hand, and then export to Excel.
- Build a UI to visualize the data in the warehouse.
- Build a backend to control the data.
- Export the report as a PDF file to reduce time spent checking stock per mount.

### AI Engineer

King Mongkut's University of Technology Thonburi

#### Personal Protective Equipment Detection Project (Vision & Image Processing)

For this project, we cooperated with Panasonic Singapore to detect people who didn't prepare protective equipment on the construction site. This project aims to reduce accidents on the construction site.

- Labeled the datasets for the training set, testing set, and development set, there are five classes.
- Training the YOLOv3 model and tracking the experiment to get maximum accuracy.
- Building demo APIs with Flask.

#### Tele-Rehabilitation System (ASR)

This project aims to assist individuals with laryngeal damage by using Wav2Vec2 models in collaboration with NSTDA. Most patients lose the ability to communicate with people in society. Using ASR might help decipher difficult communications.

- Transform Thai labels into phonetic labels.
- Prepare ASR data set from raw data, clean data, and tokenized data to make a training dataset and testing dataset.
- Augment the raw dataset by adding noise to make the model more robust against noise.
- Training the model on a supercomputer (LANTA) with a multi-GPU (A100x4) to make the most efficient model.
- Post-processing and evaluating the model to make the report.

#### Marketplace App (Django)

As a proof of concept for full-stack development, create a Django demonstration project and host it on the AWS Cloud (EC2).

How to Develop and Use Cloud Applications As a proof of concept for full-stack development, create a Django demonstration project and host it on the AWS Cloud (EC2). How to Develop and Use Cloud Applications .

- Build the Frontend, create the Model.
- Set up the Environment with Docker.
- Testing and Deploy to AWS.

#### Image Classification API (Django REST)

This project was built to demonstrate the ideas of full stack with Deep Learning. Using a basic model of picture classification with PyTorch, there are two parts: front-end and classification model.

### Dashboard Project (MERN)

Create a full-stack project to display sales data in the form of a graph and table. It was implemented on Render.com in a manner similar to my demo, which you can view on my website.

- Mock up customer and transaction data, Then load data to the MongoDB.
- Use Express connecting with MongoDB for read create update and delete the data.
- For the client, use ReactJs with MaterialUI framework and use Nivo for visualized Chart Graph and DataGrid.
- Deploy client and server side on Render.com with free trails account.

### Social Media Project (MERN)

Similar to the project mentioned before, I created a project, researched adding an authentication system, and displayed user data on a feed. I also implemented this project on Render.com, so you can view the link on my website.

- Mock up users data and feeding data, and then load data to the MongoDB.
- Set up ExpressJS for server and connecting to MongoDB database.
- Set up routes for users, and setting authentication system (JWT) and middleware.
- Create frontend side with ReactJS, make UI, routing with protected routes and then connected with server
- Deploy client and server side on Render.com with free trails account.

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## TECHNICAL SKILLS

- **Programming Language:** Python, R, JavaScript, Go
- **Frontend Framework:** React.js
- **Backend Framework:** Express.js, Django, Flask, Go(Fiber)
- **RDBMS:** MySQL, PostgreSQL
- **NoSQL:** MongoDB
- **Machine Learning Framework:** Pytorch, MLFlow, Pandas, and Numpy
- **DevOps:** AWS Cloud, Docker
- **HPC:** Slurm-Scripts
- **Version Control:** Git