Nuttapong La-ongtup

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Knowledge and Skill Base

- Data science, essential mathematical and statistical knowledge
- Technical specialties:
  - Machine Learning specialties: Deep Learning Neural Network, Clustering, Logistic Regression, Multiple Regression
- Machine Learning framework: Python, PyTorch, TensorFlow, Scikit-learn, Pandas, Numpy, Matplotlib, etc.
- Application Development and Deployment Tools: Django, FastAPI, Docker, AWS ECS-Fargate, etc.

Work Experiences

Machine Learning Engineer, Associate | May 2021 – present 2022 (2 months)
- Company: Pomelo Fashion, Bangkok, THAILAND
- Responsibility:
  - Co-develop, deploy and maintain in-house ML models closely with Data Scientists
    - Customer segmentation KYC (Know Your Customer), clustering models
    - Personalization and Recommendation model
    - Demand forecasting models
    - Product Pricing and Discount Utilization Strategy models

- Techniques:
  - Model technologies: Deep Learning Neural Network, K-means clustering, word2vec, Cosine similarity, etc.
  - Model development framework: PyTorch, Keras-Tensorflow, Scikit-learn, MLFlow, Gensim
  - Deployment toolstack: FastAPI, Celery, RabbitMQ, Docker, GitHub Actions, HashiCorp toolchain (Terraform, Vault, Consul), AWS (ECR, ECS-Fargate, Lambda, API Gateway, DynamoDB, Athena/Redshift, S3), Airflow on Amazon MWAA (AthenaOperator, PythonOperator, EcsOperator), etc.

Machine Learning Engineer | May 2021 – April 2022 (1 year)
- Company: AI and Robotics Ventures (a subsidiary of PTTEP), Bangkok, THAILAND
- Department: ARV Software Core Technology
- Responsibility:
  - Research and develop in-house ML technology in a Computer Vision field
  - Develop Object Detection models detecting crack defects on flare stacks at offshore oil rigs
  - Deploy and maintain Machine Learning API services, perform experimental MLOps technologies on existing ML services
  - Develop the company's AI Studio Platform (initiation stage)
  - Support ARV's subsidiary companies with AI and Machine Learning solutions
- Techniques:
  - ML framework: PyTorch, YOLOv5
  - Application framework: FastAPI/Django, REST API, Docker, Celery with RabbitMQ
  - Deployment framework: GitLab Runner, AWS (API Gateway, Lambda, Application Load Balancer, ECS-Fargate, ECR), PostgreSQL, SQLAlchemy, etc.

Data Scientist | December 2017 – November 2020 (3 years)
- Company: UACJ R&D Center, Nagoya, Aichi, JAPAN
- Research Section: Advanced Production Technology Research Section
- Responsibility:
  - Research and development of IoT-related machine learning models to improve materials manufacturing process
  - Develop a simple web application platform to deploy ML models (using Django, REST API, jQuery)
  - Optimize manufacturing process using machine learning techniques to improve process efficiency, improve KPI, reduce cost, and prevent process failure)
- Techniques:
  - Logistic Regression, Multiple Regression, Deep Learning Neural Network, Convolutional neural network (CNN), Grad-CAM class activation visualization, LSTM, Autoencoder, etc.
  - A general statistic, Central limit theorem, Maximum likelihood/cross-entropy optimization for various types of classification models, K-fold cross-validation, Early Stopping Method, Model regularization and generalization, etc.
  - Develop a simple web application platform to deploy ML models (using Django, REST API, jQuery)
  - Proficient ML framework: Keras-TensorFlow, Chainer, Pandas, Scikit-Learn, Scikit Optimize, Hyperopt, Numpy, SciPy, OpenCV, etc.
- My Work Achievements: Successfully developed a Python-based data analysis web application for internal use of production engineers using the Django framework. The features of this web application include the utilization of a machine learning model for prediction, visualization, and optimization, also featured an interactive graphic user interface so that production engineers can use the web application features to optimize manufacturing parameters such as the chemical composition of an alloying element, the reduction rate of a cold rolling process, heat treatment time, etc.

Research Intern | April 2014 – May 2014 (2 months)
- Institute: Nara Institute of Science and Technology - Ikoma, Nara, JAPAN. University Internship Program Sponsored by Japan Student Services Organization (JASSO)
- Internship Subject: Computational Modeling of π-Conjugated Polymer

Educations

Master of Eng. (Materials Engineering, Computational Physics)
- Institute: The Graduate School, Kasetsart University
- Thesis: Atomistic Simulation of Structural Evolution at Long Time Scales: Diffusion in the FCC NiAl System

Bachelor of Eng. (Materials Engineering)
- Institute: Kasetsart University
- GPA: 3.57 with 1st Class Honors

Publications

- Effects of Re on Vacancy Mobility in a Ni-Re System: An Atomistic Study (2021) ([see publication](#))
- 機械学習による溶解効率の高精度予測 (2020) ([see publication](#))

Licenses & certifications

- IBM Data Science Methodology | IBM ([see credential](#))
- Advanced Computer Vision with TensorFlow | DeepLearning.AI ([see credential](#))
- End-to-End Machine Learning with TensorFlow on GCP | Coursera ([see credential](#))
- Perform Foundational Data, ML, and AI Tasks in Google Cloud | Google ([see credential](#))

Languages

- Thai: Native Tongue
- English: Business Level, TOEIC test score: 940 | September 2020 ([see credential](#))
- Japanese: Basic Conversation Level, JLPT-N3 Certification | December 2019 ([see credential](#))

Activities

- The Sixth Thailand Olympiad in Informatics – TOI 2010 (3rd Round Computer Olympic Camp)
- Presentation at the 21st International Annual Symposium on Computational Science and Engineering (ANSCSE 2017)

More Information

For more information, please visit my Web Profile and LinkedIn Profile at the link below

- Web profile: https://nlaongtup.github.io
- LinkedIn: [Nuttapong La-ongtup](#)