

# Pawarit Thareechan

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Data Scientist | Machine Learning Engineer

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## EXPERIENCE

### Avalant Co. Ltd.

Data Scientist

Apr 2023 - Present

2 years 6 months

- RAG Chatbot with Budget Allocation System:** Built intelligent chatbot combining data mining and RAG for HR queries and government budget allocation recommendations. Developed ML-powered system to suggest optimal budget ratios and predict allocation outcomes for Thai government projects, integrating automated email notifications.
- HR Performance Analytics & Workload Balancing:** Developed real-time analytics pipeline tracking project completion times, predicting task duration, and detecting employee pattern anomalies (leave abuse, low productivity). Enabled workload balancing and performance monitoring through live dashboard for HR teams.
- Wind Turbine Rotor Failure Analysis:** Applied signal analysis on sensor data to predict copper bar rotor breakage in 1,500 RPM turbine generators. Identified critical data collection flaw (10-minute sampling rate insufficient for high-speed machinery) and recommended angle-based sampling (at least 5-10 degrees per sample) instead of time-based approach to capture voltage-current-vibration relationships, providing actionable data engineering solution.

### Looloo Technology

Machine Learning Engineer

Aug 2021 - Mar 2023

1 year 7 months

- Car Auction Pricing Model:** Developed ML model with 11-26% average price error using brand, model, year, and color features, solving data imbalance by leveraging similar-vehicle pricing patterns. Deployed real-time price range predictions to help valuers and customers make informed bidding decisions.
- Image Authentication Pipeline:** Built multi-stage verification system with QR code validation, Moiré pattern detection for screen capture rejection, and EfficientNet classification to verify legitimate cardboard-based submissions. Achieved 97% accuracy with 0.2% false positive rate, accelerating verification workflow by 66%.
- Symptom Clustering System:** Developed LLM and NLP-powered system to automatically extract and cluster patient symptoms from medical records. Enabled doctors to focus on key symptom patterns while automatically recording structured data to database, improving diagnosis efficiency and data quality.

### iCONEXT Co., Ltd.

Software Engineer Intern

Apr 2018 - Jul 2018

3 months

- Line Chatbot for Meeting Room Booking:** Built automated booking system eliminating manual G Suite processes and improving user adoption through familiar messaging interface. Streamlined room reservation workflow and reduced administrative overhead.
- Automated Sales Reporting System:** Developed real-time reporting solution for metal company, reducing manual data entry and ensuring real-time database synchronization. Improved data accuracy and operational efficiency.

## KEY ACHIEVEMENTS

### Health Data Science Hackathon by BDMS – Winner, THB 10,000 prize

2021

Won 24-hour hackathon with 3-person team, built healthcare prediction model and visualized insights to support diagnosis and resource planning

### Teaching Assistant – Computer Engineering

2021

Assisted in undergraduate courses: Data Structures and Algorithms, Machine Learning, Introduction to Design and Analysis of Algorithms

## TECHNICAL SKILLS

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|------------------------------------|--|
| <b>Programming:</b>                | Python, SQL, JavaScript, Shell, C#   |
| <b>ML/AI:</b>                      | PyTorch, TensorFlow, scikit-learn, NLP, Computer Vision, Deep Learning             |
| <b>Data Engineering:</b>           | Apache Spark, Airflow, ETL/ELT, Data Pipelines, Real-time Processing               |
| <b>Vector Databases &amp; RAG:</b> | Milvus, Dify, Embedding Models, Semantic Search                                    |
| <b>Cloud/Tools:</b>                | Docker, Git, CI/CD, Min.io, Apache Superset, PostgreSQL, Vector Databases (Milvus) |
| <b>Visualization:</b>              | Dashboard Development, Business Intelligence, Data Visualization                   |

# Pawarit Thareechan

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## EDUCATION

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### Bachelor of Engineering in Computer Engineering

*King Mongkut's University of Technology North Bangkok (KMUTNB)*

Aug 2015 – Apr 2019

3 years 8 months

## PERSONAL PROJECTS

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### Discord Anti-Spam Bot – Behavioral Analysis System

2024 – Present

Developed ML-powered bot protecting 6,000+ users (~1,000 active per week) with 100% accuracy over 1+ year, using behavioral pattern analysis to distinguish scammers from legitimate users with zero false positives

## ADDITIONAL PROJECTS & ACTIVITIES

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### Senior Project – ML Model Evaluation: AUC vs Accuracy Performance Study

2019

Researched optimal feature selection methods and compared AUC vs accuracy metrics, demonstrating AUC's superior ability to distinguish model quality despite complexity trade-offs

### Cyber Security Challenge by KPMG – 12th place (Top 60%)

2018

Competed in 4-person team during one-day hackathon solving real-world cybersecurity scenarios among 20 teams