THANABODI PHUCHOMSI

DATA MARKETING

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SUMMARY

I am a Data Scientist with advanced skills in building and deploying predictive models using Python (Scikit-learn, TensorFlow), R, and SQL. My key projects demonstrate a strong capacity for end-to-end data science workflows. For my award-winning senior project, I developed and compared CNN, LSTM, and Transformer models on time-series medical data, achieving an AUC-ROC of 0.89 with a CNN+LSTM architecture for ICU shock prediction. Additionally, I have practical experience in data-driven marketing, where I engineered a "Smart Target" solution using K-Means clustering and a Random Forest classifier to prove a significant uplift in ROI.

EDUCATION

Bachelor of Science **2021 - 2025**

Khon Kaen University | GPAX : 3.65

- Major in Statistical Information and Data Science.
- Thesis on “Developing a Time Series Deep Learning Model to Predict Shock in ICU Patients at Srinagarind Hospital, Khon Kaen”

SKILLS

PROGRAMMING LANGUAGES

- Python
- R
- SQL
- HTML
- CSS

DATA SKILLS

- Machine / Deep Learning / AI
- Data Transformation
- Dashboard / Reporting
- Statistical Analysis

PROJECT EXPERIENCE

- **Data Marketing Strategy Project -** Developed an end-to-end data-driven marketing strategy to optimize advertising budget and increase campaign effectiveness. Utilized K-Means clustering to segment customers into 4 distinct personas (e.g., VIPs, Loyalists) and built a Random Forest model to predict customer response to marketing campaigns. Leveraged SHAP to interpret the model, identifying 'Recency' and 'Total Spend' as key drivers. A simulation demonstrated that the targeted strategy boosted campaign ROI from 44.4% to 108.1%, increasing conversions by 44.2% and generating an additional 51,000 Baht in revenue compared to a traditional mass marketing approach. *Tools used: Python, Scikit-learn, Matplotlib, Seaborn, SHAP*
- **Deep Learning Project (Thesis) -** Developed a time series deep learning model (CNN/LSTM/Transformer) to predict shock in ICU patients 1 hour in advance using Smart-ICU data. Achieved AUC-ROC of 89% with a CNN+LSTM hybrid model. Deployed a Flask-based web app for CSV uploads, real-time risk prediction, and interactive trend visualization. Used SHAP for model interpretability to identify key variables contributing to shock risk. The project covered end-to-end processes, including data cleaning, feature engineering, model training, evaluation, explainability, and deployment—demonstrating readiness for real-world business applications in healthcare.
  Tools used: Python, Pandas, NumPy, TensorFlow, Scikit-learn, Matplotlib, Seaborn, Flask, SHAP
- **Database System and Design Project** - Designed and normalized a relational database schema for a DVD rental system. Implemented sample queries and relationships to simulate inventory and rental operations.
  Tools used: SQLite, MicrosoftSQL, DBDiagram
- **Basic Programming for Data Science Project** - Analyzed 2023 Thailand General Election results by *Python* and visualized voter behavior by region using *Power BI*

ACTIVITIES & AWARDS

- **Silver Medal (Oral Presentation),** 13th Undergraduate Applied Mathematics Conference (UAMC2025) – Awarded for presenting deep learning-based ICU shock prediction research.
- **Data Analytics Intern**, Bureau of Planning & Special Affairs, Office of the Permanent Secretary – Compiled and structured operational data from various departments within the Office of the Permanent Secretary. Created performance tracking and budget utilization reports using Power BI to support efficiency evaluation across units.
- **Honorable Mention & Popular Vote,** Mini Research to Marketing 2022 – Recognized for outstanding innovation and public engagement in transforming research into business value.