Achira Laovong

achiralaovong@gmail.com
Bachelor of Science
Mahidol University International College

+66-0830589596
github.com/AchiraLaovong
linkedin.com/in/achira-laovong/

Experience

•Data Science Intern *Hybrid*

SCB TechX May 2025 – Aug 2025

- Worked on building a Text-to-SQL system with a multi-RAG framework and schema-linking via Neo4j knowledge graphs, supporting both Thai and English.
- Designed, implemented, and optimized table metadata retrieval using Neo4j knowledge graph for effective schema-linking with less than 0.3 seconds retrieval time.
- Dockerized microservices to improve reproducibility and deployment consistency.
- Built and optimized API communication using FastAPI and Nginx for efficient integration between components.
- Migrated and cleaned large-scale databases to improve data quality and consistency.

Projects

•Kafka-Driven Data Streaming Pipeline with Dashboard

Collaborated in a team to design and implement a data streaming pipeline supporting both batch and live data processing.

- Built a dual-mode data streaming pipeline leveraging Apache Kafka for real-time (live) and batch data processing, ensuring efficient handling of both high-volume streaming and batch workloads.
- Implemented exactly-once delivery with transactional messaging and state stores for reliable real-time processing.
- Deployed a containerized ecosystem with Docker (Zookeeper, Kafka-Broker, Kafka-Connect, Elasticsearch, Kibana).
- Visualized real-time insights with Kibana, creating actionable dashboards for live and batch data.
- Technologies: Apache Kafka, Kafka Streams, Elasticsearch, Kibana, Docker, Java, Maven.

•Steam Game Trends Exploratory Data Analysis

Led a team to build a data pipeline analyzing 40M+ rows of Steam data, uncovering user behavior and game trends.

- Built ETL pipelines using Apache Spark to process and transform 40M+ rows of Steam user data for trend analysis and recommendations.
- Implemented the Apriori algorithm to uncover actionable game recommendations that helped inform product decisions.
- Developed visualizations to present key insights and supported stakeholder decision-making.
- Technologies: Apache Spark, Python, Matplotlib, Seaborn, Apache Parquet.

•Super Resolution Convolutional Neural Network (SRCNN)

Developed a deep learning model for image enhancement with results rivaling traditional methods.

- Trained SRCNN on the DIV2K dataset, achieving an average SSIM of 0.89, demonstrating strong structural similarity in reconstructed images.
- Compared SRCNN to Bicubic Interpolation (SSIM 0.88), showing consistent improvements in reconstruction quality.
- Technologies: TensorFlow, Keras, Python, NumPy, Scikit-Learn.

Technical Skills and Interests

Languages: Python, Java, Scala, C++, SQL, R
ML & DL: PyTorch, TensorFlow, Keras, Scikit-Learn, XGBoost, Pandas, NumPy
Data & Big Data: Apache Spark, Apache Kafka, Elasticsearch, Apache Airflow, PySpark
Deployment & Infra: Docker, FastAPI, Nginx
Areas of Interest: Data Science, LLM/RAG systems, Time Series Forecasting, Recommendation Systems, Data Engineering

Education

•Bachelor of Science in Computer Science *9/2021 - 9/2025*

Mahidol University International College GPA: 3.73/4.00

- Relevant Coursework: Data Science, Machine Learning, Time Series Analysis, Linear Algebra, Statistics I & II, Data Mining (Data Engineering), Database Foundation, Software System Construction
- Teaching Assistant: ICCS 101 | Introduction to Computer Programming

Certificates

•**Machine Learning with Python**
Credential: /certification/AchiraLaovong/machine-learning-with-python-v7

– Gained hands-on experience using TensorFlow to construct neural networks and develop skills in machine learning techniques.