Kai Qin TAN

Kuala Lumpur, MY | +6017-3791218 | kqtan99@gmail.com | Portfolio | LinkedIn Profile | GitHub Profile

Data professional with a foundation in Actuarial Science and a proven ability to deliver business impact through deep learning and **data-driven solutions**. Currently driving revenue growth and cost savings in **InsurTech** through **predictive modeling**, automation, and **AI-driven analytics**. Experienced in working across technical and business teams to translate insights into strategy, with a strong focus on scalable, backend ML solutions. Skilled in **Python, ML/AI, SAS**, and **cloud-based GenAI tools**, and eager to continue creating value in agile environments.

EDUCATION

Bachelor of Science in Actuarial Science with Distinction | Universiti Tunku Abdul Rahman (UTAR)
October 2020 - October 2023

- **CGPA**: 3.97/4.00
- **Awards**: MDT Innovations Top Graduate, Jobstreet Best Graduate (LKCFES), Little Rain Trust Best Graduate 2024, 11 times President List

EXPERIENCE

Data Scientist | Sun Life Malaysia Assurance | Kuala Lumpur, MY
January 2024 – Present

- **Developed** machine learning models using **XGBoost** and **neural networks** to predict client payment defaults, achieving a **70% accuracy rate**, supporting client campaign initiatives.
- **Reengineered** a legacy **SAS e-miner Cross-sell model** in Python with **Scikit-Learn**, fully documented to meet internal compliance and audit standards, improving maintainability.
- **Built** an OCR-driven Python application to automate data extraction and analysis, **unlocking RM800k/month in new business opportunities**, a 30% extra sales opportunity.
- Led the implementation of **Anaconda Python** across analytics teams, eliminating ~**RM300k in annual SAS licensing costs**, and introducing **GitLab**, **Apache Airflow**, and **Linux** to the team.
- Contributed to the development of the company's **data warehouse** and **data mart** infrastructure, improving data accessibility and enabling faster, more accurate reporting for business stakeholders.
- **Achieved 90% accuracy** in sales forecasting by applying advanced statistical modeling in SAS, enabling **more accurate revenue projections** and informed strategic planning.
- **Conducted** claim ratio analysis to address reinsurance cost increases, **identified high-risk client segments**, and developed targeted strategies projected to **cut loss ratios by over 10%**.
- **Collaborated** with vendors on a GenAI proof-of-concept using Amazon Bedrock and Business Q, showcasing the potential of **LLMs trained on internal knowledge bases** to automate client queries and insights.

Intern, Strategic Analytics | Sun Life Malaysia Assurance | Kuala Lumpur, MY
October 2022 – January 2023

- Developed the Campaign Management module for an internal-use drag-and-drop platform using Flask framework and SQLite server.
- Led the backend team in A/B testing software logic using the tree-node concept.
- Constructed a regression duration predictor model for the data extraction process with 90 percent accuracy.

PROJECT

Client Next Best Action (NBA), Sun Life Malaysia Project

- Designed and developed a **client journey framework** tailored to distinct personas and backgrounds, supporting the company's Next Best Action strategy for **personalised client engagement**.
- Built a machine learning model to predict **clients at risk of missing upcoming payments**, aimed at improving customer retention, increasing policy persistency, and **reducing conservation costs**.
- Achieved **70% accuracy** in identifying high-risk clients; model implementation is projected to **reduce conservation costs by 30%** and enable targeted, cost-effective interventions.

Formula One Race Winner Prediction, Personal Project

- Developed a machine learning model to classify F1 drivers into podium, points, or non-scorer categories with **90% accuracy**, using historical performance data and driver-specific attributes.
- Engineered a **custom scoring algorithm** to quantify a driver's track-specific performance potential, incorporating contextual and personal data.
- Built and deployed a full-stack web application using **React and Flask**, integrating race calendars and driver profiles via external APIs, hosted as a PaaS solution.
- Demonstrated **end-to-end ownership**—from open-source data collection and feature engineering to model deployment and frontend integration.

Machine Learning for Email Filtering and Categorising, Final Year Project

- **Gold Prize Winner** for the FYP poster competition.
- Investigated the feasibility of various Deep Learning methods on text classification as a proof-of-concept, including LSTM, BERT, RoBERTa, and CNN with overall accuracies over **92 percent**.
- Demonstrated the utilisation of a pre-trained and state-of-the-art abstractive summarisation model, PEGASUS and T5 with 48% ROUGE-1 score.
- Developed a platform showcasing related NLP models using the **Flask framework with Jinja templating**.

- **SKILLS:** Python, Machine Learning, Natural Language Processing, SQL, SAS, R, Flask, Linux RedHat, Solution Design
- **TOOLS:** Tensorflow, Scikit-Learn, PyTorch, Anaconda, Amazon Bedrock, GitLab CI/CD, Excel VBA, Docker, Apache Airflow
- **LANGUAGES**: English (Full Working Proficiency), Malay (Working Proficiency), Mandarin (Native), Japanese (JLPT N4)

CREDENTIALS

- **AWS re/Start program Graduate** and preparing for **AWS Certified Cloud Practitioner Exam**.
- **Microsoft Data Science certificate** program graduate.
- Represented the AS course and gave a talk to the existing foundation students on the course and its structure.

REFERENCES

Dr. Wong Voon Hee, Assistant Professor, UTAR
HoD, Department of Mathematical and Actuarial Sciences
wongvh@utar.edu.my | +6012-3552644