

OBJECTIVE

- Transitioning to semi-retirement after 20+ years in family business
- Focus more on continuous academic learning in Applied AI and technology fields for business
- Eager to contribute through voluntary mentorship and active participation in academic research initiatives in data science and AI domains, particularly in business applications
- Share 10+ years of self-taught ML/AI expertise combined with formal training

EDUCATION

MSc Marketing Management (With Scholarship)

Hong Kong Polytechnic University, Faculty of Business | Sep 2025 - Jan 2028 (Expected)

- Planning to pursue dissertation track focusing on sentiment analysis models

PgDip Artificial Intelligence & Business Transformation

University of Hong Kong, Institute for China Business | Qianhai, Shenzhen | May 2025 - Jan 2027 (Expected)

- Concurrent enrollment approved by PolyU
- **Class Representative (Learning):**
 - Facilitate academic development and learning support for 60+ classmates
 - Coordinate educational activities and study resources to enhance collective academic performance
 - Serve as liaison between students and faculty for curriculum feedback
 - Organize peer learning sessions and collaborative study groups
- Focus on AI strategy for China and US markets
- **Key Learnings & Curriculum:**
 - Tech-Transfer Strategy & Innovation Management
 - Advanced Prompt Engineering & Industrial Research Methods
 - Smart Manufacturing & Digital Supply Chain
 - AI-driven Marketing & Product Innovation
 - Strategic HR & Corporate Finance with AI Integration
- Planning to co-found AI-powered startup with 2 classmates at Qianhai Shenzhen-Hong Kong Youth Innovation and Entrepreneur Hub (前海深港青年夢工場)

Executive Education Programme for Data Scientists

HKU Business School & China Resources Business School | HKU Main Campus & China Resources (華潤集團) HQ, Shenzhen | Jan - Aug 2025

- **Focus:** Advanced Big Data Analysis Techniques, Cloud Computing
- **Practical Application:** R and Python-based, GPT-assisted modeling with real-world datasets from China Resources Corporation, ICBC Bank, Bank of Communications
- **Core Competencies:**
 - Big Data Acquisition & Processing
 - Advanced Analytics & Forecasting
 - GPT-Assisted Analytical Modeling
 - High-Performance Computing
 - Cloud Computing Architecture
- **Post-Programme Ongoing Project:** Working in team of 5 (including 2 PhD candidates) helping Mengniu (蒙牛) optimize smart farming through big data analysis to address milk price pressures in China, with periodic progress reports to HKU Business School supervisor

EDUCATION (CONTINUED)

MSc Electronic Commerce & Internet Computing (Distinction)

University of Hong Kong, School of Computing and Data Science | Sep 2021 - Jun 2023

- **Technical Stack:** Machine Learning (Python), Data Science (R, Carnegie Mellon), GIS (ArcGIS), Full-Stack Web Development, Database Management & API Design
- **Business Applications:** Digital Logistics, Digital Marketing (Carnegie Mellon), Cybersecurity, TCP/IP Networking, E-Logistics (HKU Business School)
- **Capstone:** BERT-based sentiment analysis model for customer satisfaction prediction using Hugging Face framework

MSc Engineering Business Management (Joint Award with Dissertation)

Hong Kong Polytechnic University & University of Warwick | Sep 2008 - Jun 2011

- **Core Competencies:** Quality Management, Project Management, Applied Statistics, Industrial Operations Strategy, Financial Management for Engineering
- **Dissertation:** "Knowledge Management for Implementing ERP in SMEs"
- **Professional Certification:** Six Sigma Black Belt (Reg.# 0195, Hong Kong Six Sigma Institute)

Master of Commerce in Finance

University of New South Wales Business School | Sydney | Feb 1999 - Jan 2000

- **Specializations:** Security Valuations, Derivatives & Risk Management, Portfolio Management & Modeling, Capital Budgeting, Risk & Insurance

Bachelor of Commerce

University of Sydney Business School | Feb 1996 - Jan 1998

- **Double Major:** Accounting and Management
- **Core Areas:** Financial & Managerial Accounting, Auditing, Organizational Management, Economics & Econometrics

PROFESSIONAL EXPERIENCE

UNIVERSAL JEWELLERY DESIGN CENTER LTD

A 40+ years established high-end jewellery manufacturer and global supplier to premium brands

Financial and Systems Controller | Jan 2013 - Present

- Lead cross-functional team of 150+ staff across Hong Kong and China operations
- Drive digital transformation using AI tools, Python/R programming, and modern ERP systems
- Develop custom analytics solutions for forecasting and market intelligence automation
- Manage financial/operational risks and implement cost reduction strategies
- Maintain company IT infrastructure and server systems

Company Accountant | Feb 2002 - Dec 2012

- Managed full accounting cycle and multi-country regulatory compliance
- Led budgeting, financial forecasting, and cash flow optimization initiatives

HSBC BANK AUSTRALIA

Personal Financial Services Officer | Sydney | Jun 2000 - Dec 2001

- Assessed mortgage and loan risk; prepared regulatory-compliant documentation
- Managed legal contracts and provided comprehensive customer service

KEY PROJECTS 2025

VIEW COMPLETE PORTFOLIO

www.david-kwan.com/2025-project →

Demonstrating interdisciplinary expertise beyond traditional Python and R ML/DS, spanning cognitive psychology, evolutionary computation, and specialized NLP applications

Sentiment Analysis System (2023-2025)

- **HKU MSc Capstone:** Advanced sentiment analysis addressing "hidden dissatisfaction" in e-commerce
- **Data Source:** Extensive Amazon reviews analyzed using multiple sophisticated models
- **Implementation:** Advanced Ensemble methods, RoBERTa Transformer, Feature-Based approaches with extensively engineered features
- **Innovation:** Integrated Transformer-based ABSA processing for comprehensive aspect-sentiments, uncovering subtle sentiment patterns that traditional analysis misses
- **Impact:** Enabled proactive business intelligence by identifying hidden customer dissatisfaction

Purchase Decision Modeling (2025)

- **Approach:** Drift Diffusion Models (DDM) to decode consumer choice behavior through evidence accumulation modeling
- **Analysis:** Multiple distinct decision-making scenarios across extensive simulated trials
- **Key Findings:** Revealed how bias amplification, speed-accuracy tradeoffs, and pressure sensitivity influence purchasing decisions
- **Consumer Insights:** Identified archetypes from impulsive buyers to cautious deliberators
- **Business Value:** Enabled targeted marketing strategies and optimized choice architecture

Multi-Objective Optimization Framework (2025)

- **Algorithms:** Comparative analysis of NSGA-II, NSGA-III, and MOEA/D on ZDT1 and DTLZ1 benchmarks
- **Achievement:** MOEA/D achieved superior performance with extensive Pareto-optimal solutions in tri-objective optimization
- **Analysis Methods:** Implemented hypervolume analysis and statistical performance metrics
- **Capabilities:** Demonstrated advanced handling of conflicting objectives in complex optimization challenges
- **Application:** Provided insights into algorithm selection for multi-objective problems

Buddhist-Specific Neural Machine Translation (2025)

- **Development:** Specialized neural machine translation system using extensive Buddhist-specific parallel corpus
- **Technical Implementation:** Custom tokenization for CJK characters and Buddhist terminology optimization
- **Performance:** Achieved significant improvements in domain-specific translation quality over general-purpose models
- **Specialization:** Particular strength in translating technical terms like "prajñāpāramitā" and "five aggregates" that generic translators typically misinterpret
- **Impact:** Substantial specificity improvement for Buddhist text translation and preservation

TECHNICAL SKILLS

Programming Languages & Core Technologies Languages: Python, R, JavaScript, SQL, HTML5/CSS3 Frameworks: React, Bootstrap, Flask, Django, FastAPI, Node.js
Machine Learning & Deep Learning 15+ YEARS COMBINED ACADEMIC AND PROFESSIONAL EXPERIENCE Core ML/DL Frameworks: Scikit-learn, PyTorch, TensorFlow/Keras, Hugging Face Transformers Ensemble Methods: XGBoost, LightGBM, CatBoost AutoML & Optimization: Optuna, Hyperopt, TPOT, H2O.ai, auto-sklearn, PyCaret, Ray Tune Model Interpretability: SHAP, LIME Specialized Libraries: Imbalanced-learn, Feature-engine, Statsmodels
Natural Language Processing & Computer Vision NLP: spaCy, NLTK, Transformers, LangChain, custom tokenization for CJK characters Computer Vision: OpenCV, image processing pipelines Applications: Sentiment analysis, ABSA, neural machine translation, multi-lingual processing
Data Science & Analytics Data Processing: Pandas, Polars, NumPy, PySpark Time Series: Prophet, ARIMA, Statsforecast, sktime Databases: PostgreSQL, MySQL, MongoDB, SQL/NoSQL optimization Web Scraping: BeautifulSoup, Scrapy, Selenium, Requests. Also capable in SERP and Social Media Scraping
Data Visualization & Business Intelligence BI Platforms: Tableau, Microsoft Power BI, advanced Excel with VBA automation Python Visualization: Matplotlib, Seaborn, Plotly, Dash, Altair, Bokeh R Visualization: ggplot2, Shiny, Highcharter Web Visualization: D3.js, Highcharts, Streamlit Statistical Software: JMP Pro, Minitab (Six Sigma), Origin
Large Language Models & AI EARLY ADOPTER AND POWER USER OF LEADING GPT/LLM PLATFORMS Western Platforms: ChatGPT, Claude, Gemini, Grok, Perplexity, NotebookLM (all premium/pro subscriptions) Chinese Platforms: DeepSeek, Kimi, Doubao, Zhipu, Wenxin Technical Implementation: RAG systems, advanced prompt engineering, model fine-tuning, hallucination mitigation Applications: GPT-assisted analytical modeling, automated report generation, intelligent data processing
Systems & Infrastructure Cloud Computing: High-performance computing architecture, distributed systems Linux Administration: Ubuntu, Debian, Fedora; shell scripting and automation Server Management: Nginx configuration, REST API design, security implementation, scalable architecture Specialized Tools: GIS (ArcGIS), Digital Forensics (Autopsy, FTK)