Michael Blanchette

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Education

The Hong Kong University of Science and Technology   **Sep 2020 – Jun 2025 (Expected)**
BEng Computer Science & BBA Marketing   *Dual Degree Program in Technology & Management (DDP)*

CFA Institute   **Exam Date: Aug 2024**
Passed CFA Level I Exam

Work Experience

Stealth BioTech Startup   **Jul 2024 – Aug 2024**
Machine Learning Developer Intern   *Hong Kong, China*

- Developed RNN and DCNN TensorFlow models based on a research paper to predict knee joint angles from sEMG muscle signal data with 85% accuracy for real-time prosthetic and exoskeleton control.
- Prototyped an AI-powered medical diagnosis chatbot integrating MongoDB, Llama 3.1, and Retrieval-Augmented Generation (RAG) to streamline medical consultations and provide symptom-based diagnoses through semantic search.

Deloitte   **Jun 2023 – Aug 2023**
Consulting Intern - Deloitte Digital   *Hong Kong, China*

- Optimized ServiceNow workflows to design and implement strategic portfolios and management dashboards, serving HR personnel, employees, and customers across 4 large corporations.
- Ensured high-quality cross-cultural communication by supervising and performing 150 to 200 Chinese-English translations daily for ServiceNow dashboard messages and notifications.
- Produced real-time meeting minutes for 2 to 5 stakeholders, distilling key action points, decisions, and agreements. Reduced follow-up time by 25% by ensuring clear documentation and actionable insights for all participants.

Project Melo | [Website](https://website)   **Jan 2022 – July 2022**
Fellow   *Hong Kong, China*

- Co-founded McDonald's HK's first youth-led committee alongside Bowtie CEO Fred Ngan and Miss Hong Kong 2015 Winner Louisa Mak, advising McDonald's HK CEO Randy Lai and board members on youth-related strategies and curating the "Coach McNugget Art World" Exhibition featuring 20+ artworks for the brand's 40th anniversary. | [Article](https://article)
- Selected as one of 20 fellows from 200+ applicants to drive social empowerment initiatives with 45+ prominent Hong Kong CEOs and business leaders.
- Delivered a TED-style talk to 500+ global CEOs to advocate for our youth-driven initiatives. | [Article](https://article)

Project Experience

Smart Debt Settler | [Blog](https://blog) | [Repo](https://repo)   **Dec 2024 – Present**
Developer   *Hong Kong, China*

- Developed a Python-based debt simplification tool using max and min heaps to algorithmically find the minimum number of transactions required for fair group expense settlements, reducing 30 to 90 minutes of work to only 30 seconds.

Advanced Time Series Forecasting Research   **Sep 2024 – Present**
Research Assistant for Final Year Project   *Hong Kong, China*

- Developing and evaluating advanced time series models (e.g., ARIMA, LSTM, Random Forest, and Transformers) to create a stock price prediction dashboard.
- Working under the supervision of Associate Professor Wilfred Siu Hung NG and PhD candidates.

MultiModal AI Assistant: A GPT-4o Alternative | [Blog](https://blog) | [Repo](https://repo)   **Jun 2024 – Sep 2024**
Developer   *Hong Kong, China*

- Engineering a custom AI assistant leveraging Llama 3.1 for communication, Gemini Flash 1.5 for screen and camera computer vision, and Azure to generate lifelike audio outputs to simulate natural conversations. This project was motivated by the fact that OpenAI isn't available in Hong Kong.
- Facilitating my language learning in Thai, Mandarin, Cantonese, and Spanish by developing a polyglot system capable of communication in 100+ languages with 400+ realistic voice options.

AI Algorithmic Trading Bot | [Blog](https://blog)   **Dec 2023 – Feb 2024**
Developer   *Hong Kong, China*

- Leveraged Alpaca and Lumibot library for basic algorithmic trading through YouTube tutorials and documentation.
- Backtested strategies using sentiment analysis of historical news headlines using PyTorch and Hugging Face models.

HKUST Corporate Consulting Project with JPMorgan Chase & Co | [Blog]   **Sep 2023 – Jan 2024**
ETF Trading Student Consultant   *Hong Kong, China*

- Designed a Global ETF Sales Dashboard to aggregate trends from news and social media for JP Morgan Asset Management's ETF sales team. Achieved 1st place in the competition. | [Article 1] | [Article 2]
- Developed an ETF filtering tool leveraging Llama 2 and MongoDB to accelerate ETF identification for JPM salespeople through RAG semantic search, reducing the time needed to pinpoint promising ETFs for their clients by 70%.
- Presented a proof of concept of a customer profiling tool by integrating CRM data from Salesforce, financial news, client meeting logs, and Hugging Face models to dynamically generate 2 to 5 ETF recommendations per month.

HKUST Corporate Prototyping Project | [Blog]   **Jun 2023 – Aug 2023**
Fixed Income Student Analyst / Full-stack Developer   *Hong Kong, China*

- Created a yearly bond pricing and credit spread migration prediction dashboard for 2 corporate banking and fixed-income related sponsors. Led mainly front-end development and achieved 2nd place in the competition. | [Article]
- Built dashboard on Next.js and Google Cloud. Sourced data from Eikon Terminal and Yahoo Finance for machine learning models and identified 62 features used to predict yearly credit rating migrations with 79.71% back-tested accuracy.

Questionbank Scraper | [Blog]   **Oct 2020 – May 2022**
Private Tutor / Software Developer   *Hong Kong, China*

- Created a Python web scraping tool in 1 week using Selenium to automate question selection from the IB Questionbank to be used as teaching material for weekly tutoring for HL Math, HL Chemistry, and HL Physics.
- Increased productivity and improved tutoring experience by decreasing question search time from 1-2 hours per week to just 5 minutes.

Relevant Coursework

BEng: Deep Learning in Computer Vision (Adapted from Stanford University - CS231n), Applied Statistics, Design and Analysis of Algorithms, Exploring Artificial Intelligence, Machine Learning, Matrix Algebra and Applications, Object-Oriented Programming and Data Structures, Principles of Cybersecurity, Programming with C++, Discrete Mathematical Tools for Computer Science, Software Engineering, Computer Organization, Operating Systems
BBA: Consumer Behavior, Digital Marketing, Financial Management, Global Marketing, Marketing Analytics, Marketing Research, Principles of Accounting I and II, Strategic Marketing, Microeconomics, Macroeconomics

Additional Information

Languages: English (Native), Thai (Fluent), Mandarin (Studying), Cantonese (Studying), Spanish (Studying)
Technical: Python, Java, C, C++, HTML, CSS, JavaScript, React, Next.js, Git, MongoDB, Keras, Tensorflow, PyTorch
Awards/Scholarships: California Critical Thinking Skills Test - 99th Percentile, HKUST Full Tuition Scholarship + Allowance (one-off), ESF Chairman's Award for Excellence, Discovery College Academic Scholarship, Venture Scout Award, Chief Scout Award, Taekwondo Dan 2 Black Belt
Extracurriculars: Scouts Instructor for 29th SJD Group, HKUST Volleyball Society Member, Guitar, Gym, Hiking