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HIGHLIGHT

- **WorldQuant International Quant Championship (IQC) 2026 — National Finalist:** Stage 2: Global **#82/22,089** | Hong Kong **#1/170**, securing the entry of National Finalist among **156,000+ total participants** (Top 8 in Mainland China & Hong Kong Combined).
- **Research Performance:** 6 peer-reviewed publications + 1 submitted, including IEEE TIP, ACM MM, and IEEE TCE. **4 first-authored, 140+ citations, h-index 4**. Latest work on autonomous LLM agent behavior in multi-gate evaluation architectures, submitted to ACM ICAIF '26.
- **Academic Foundation: BEng First Class Honours** (CGPA 4.05/4.3) in Electronic & Information Engineering, MPhil in Electrical & Electronic Engineering (CGPA 3.74/4.3)
- **Open-Source Contribution:** Open Source Maintainer (vLLM & Agentic Stability): diagnosed **CoT leakage** in Qwen 3.x models causing silent tool-call breakdowns. Corrective chat templates adopted as **de facto production standard** by Genesis-vLLM and ecosystem deployers. Total: **117+ GitHub stars** across repositories.
- **Scholarships & Awards:** **10+ major distinctions** including HKSAR Government Scholarship, HSBC Scholarship, and Dean's Honours List.

EDUCATION

- **BEng in Electronic and Information Engineering** The Hong Kong Polytechnic University
GPA: 4.05/4.3 (First Class Honours) Sep 2017 - Aug 2021
 - **Course:** Computer Vision and Pattern Recognition (A+), Surveillance Studies and Technologies (A+), Digital Signal Processing (A+), Mathematics I, II (A+, A+), Image and Audio Processing (A), Probability and Engineering Statistics (A)
- **Master of Philosophy in Electrical and Electronic Engineering** The Hong Kong Polytechnic University
GPA: 3.74/4.3 Sep 2022 - Feb 2026
 - **Thesis:** Image Enlightening with Deep Learning for Playground Lighting Enhancement with Action Recognition.
 - **Supervisors:** Prof. Yui-Lam Chan (MIEEE), Prof. SIU Wan-Chi (Life-FIEEE) and Dr. CHAN Yuk-Hee (MIEEE)
 - **Funding:** The study is fully supported by Saint Francis University

PUBLICATIONS

Under Review:

- [1]: **C.-Y. Chan** and A. Y.-M. Cheung, "Misaligned Success: Adaptive Skew of an Autonomous LLM Agent under Sparse-Reward Multi-Gate Incentives," submitted to *7th ACM International Conference on AI in Finance (ICAIF '26)*, 2026.

Published:

- [2]: **C.-Y. Chan**, W.-C. Siu, Y.-H. Chan, and H. A. Chan, "AnlightenDiff: Anchoring Diffusion Probabilistic Models on Low Light Image Enhancement," in *IEEE Transactions on Image Processing (TIP)*, vol. 33, pp. 6324–6339, 2024. doi: 10.1109/TIP.2024.3486610.
- [3]: **C.-Y. Chan**, W.-C. Siu, Y.-H. Chan, and H. A. Chan, "Back Projection Generative Strategy for Low and Normal Light Image Pairs With Enhanced Statistical Fidelity and Diversity," in *IEEE Transactions on Consumer Electronics (TCE)*, vol. 71, no. 2, pp. 3575–3586, May 2025. doi: 10.1109/TCE.2024.3516366.
- [4]: **C.-Y. Chan**, W.-C. Siu, Y.-H. Chan, and H. A. Chan, "Generative Strategy for Low and Normal Light Image Pairs with Enhanced Statistical Fidelity," in *2024 IEEE International Conference on Consumer Electronics (ICCE)*, Las Vegas, NV, USA, 2024, pp. 1–3. doi: 10.1109/ICCE59016.2024.10444437.
- [5]: **C.-Y. Chan**, C.-C. Hui, W.-C. Siu, S.-W. Chan, and H. A. Chan, "To Start Automatic Commentary of Soccer Game with Mixed Spatial and Temporal Attention," in *TENCON 2022 – 2022 IEEE Region 10 Conference (TENCON)*, Nov. 2022, IEEE.
- [6]: W.-C. Siu, H. A. Chan, S.-W. Chan, W.-H. Cheng, B.-C. Yang, **C.-Y. Chan**, C.-C. Hui, and R. Salahudeen, "On the completion of automatic football game commentary system with deep learning," in *Proc. SPIE International Workshop on Advanced Imaging Technology (IWAIT)*, Mar. 2023, pp. 125920H. doi: 10.1117/12.2668398.
- [7]: S. Giancola et al. (**C.-Y. Chan**), "SoccerNet 2022 Challenges Results," in *Proceedings of the 5th International ACM Workshop on Multimedia Content Analysis in Sports (MMSports '22)*, 2022, pp. 75–86. doi: 10.1145/3552437.3558545.

TECHNICAL SKILLS

- **Quant & Math Foundation:** Stochastic Differential Equations (SDEs), Reverse-time SDEs formulation (applicable to financial path generation & option pricing), Alpha Factor Engineering, Probability & Statistics
- **Quant Stack:** NautilusTrader, Event-driven Backtesting, TimescaleDB (High-frequency data)
- **AI/ML Stack:** PyTorch, HuggingFace, vLLM, Distributed Training (DDP/NCCL)
- **Programming:** Python (Expert), SQL, Bash/Shell
- **Infrastructure:** Multi-node GPU Cluster (12 Nodes), NCCL Debugging, Linux (WSL/Ubuntu), Docker/Podman

RESEARCH & TECHNICAL EXPERIENCE

• WorldQuant International Quant Championship

National Finalist, IQC 2026

Apr 2026 – Jul 2026

- **Performance:** Securing the entry of National Finalist among **156,000+ total participants** (Top 8 in Mainland China & Hong Kong Combined). Stage 2: Global **#82/22,089** | Hong Kong **#1/170**. Stage 1: Ranked **#6/810** in Hong Kong | **#849/152,539** globally.
- **Systematization:** Developed **ForgeBookAuto-WQ**, a Python-based automation harness that streamlined alpha ideation, simulation sweeps, and submission via the WorldQuant BRAIN API.
- **Output:** 1 paper submitted to ACM ICAIF '26.

• ForgeBook: Event-Driven Quantitative Research Platform

End-to-end quantitative research & LLM agent infrastructure

Feb 2026 – Present

- **Architecture:** Built a production-grade research platform leveraging **NautilusTrader**. Designed an event-driven architecture to ensure **backtest-live parity**, eliminating common lookahead bias.
- **LLM Automation:** Developed **ForgeBookAuto**, an LLM-powered harness that automated alpha ideation and screening (2,000+ variants). See: <https://youtu.be/aEvj0SiU6WI>
- **Data Engineering:** Integrated TimescaleDB with continuous aggregation and chunk compression for **770M+ rows** of high-frequency data; deployed on VPS with automated health monitoring.
- **Output:** Identified and fixed Qwen 3.x **CoT leakage** (silent tool-call breakdowns) in vLLM during platform development; contributed the Jinja chat template fix upstream. **97+ GitHub stars** on the repository.

• Generative Modeling for High-Noise Distribution Recovery

The Hong Kong Polytechnic University

MPhil research, Department of Electrical and Electronic Engineering

Feb 2023 – Feb 2026

- **Core Innovation:** Proposed **Dynamical Regulated Diffusion Anchoring (DRDA)**, a mechanism to stabilize stochastic sampling paths in generative models.
- **Math Depth:** Formulated closed-loop correction strategies for **reverse-time SDEs** to recover signals from extreme noise perturbations ($\sigma \gg 1$), effectively handling low Signal-to-Noise Ratio (SNR) regimes.
- **Output:** 3 first-authored publications in IEEE TIP and IEEE TCE.

• Spatiotemporal Trajectory Modeling for Action Prediction

Graduate research, Department of Electrical and Electronic Engineering

Jan 2022 – Dec 2022

- **Research Focus:** Developed sequence modeling architectures using **Temporal-Grouped and Local-Global Mixed Attention** for event detection in high-noise environments. Mathematical innovations include: (1) Formulating dynamic feature aggregation to simultaneously capture **local micro-events and global macro-states**; (2) Engineering temporal attention mechanisms to extract structured signals (key events) from continuous, unstructured data streams. This framework demonstrates strong capability in robust time-series feature extraction and event-trigger probability modeling.
- **Output:** 1 first-authored publication at TENCON; 2 co-authored at ACM MMSports and SPIE IWAIT.

• Research Assistant

Saint Francis University

Deep learning research; took on HPC cluster management for the research group

Sep 2021 – Sep 2025

- **Cluster Deployment:** Took initiative to architect and deploy a **12-node high-performance computing cluster** powered by **NVIDIA RTX 3090/4090 GPUs**, filling a critical infrastructure gap for the research group.
- **Infrastructure Hardening:** Resolved critical NCCL communication deadlocks and P2P transfer issues inherent in consumer-grade multi-node setups. Successfully stabilized the distributed environment for long-duration training tasks.
- **System Operations:** Managed Linux environment, network topology, and containerization; maintained stable compute for long-running training and evaluations.
- **Output:** Enabled MPhil research and provided foundation for multiple peer-reviewed publications including IEEE TIP and IEEE TCE.

OPEN SOURCE CONTRIBUTIONS & IMPACT

• Open Source Maintainer

GitHub

vLLM Qwen 3.x Chat Template Fix

2026

- **Critical Agentic Stability Fix:** Resolved a **production-critical inference failure** in Qwen 3.x models. Diagnosed **CoT leakage** as the root cause of silent tool-call breakdowns, **effectively blocking reliable agentic workflows**.
- **Global Adoption:** Engineered the corrective chat templates; merged and adopted as the **de facto production standard** by Genesis-vLLM, Club-3090, and Qwen 3.5/3.6 deployers. <https://github.com/allanchan339/vLLM-Qwen3-3.5-3.6-chat-template-fix>
- **Infrastructure Hardening:** Architected a stable **heterogeneous inference environment** on **RTX 3090/4090 GPUs** under WSL2. Resolved NCCL P2P deadlocks via topology tuning.

HONORS, AWARDS & SCHOLARSHIPS

- **National Finalist (Top 8 in Mainland China & Hong Kong Combined)**
WorldQuant International Quant Championship 2026
- **Hong Kong Special Administrative Region Government Scholarship**
Hong Kong SAR Government 2019–2021
- **HSBC Greater Bay Area (Hong Kong) Scholarship**
The Hongkong and Shanghai Banking Corporation 2021
- **HSBC Hong Kong Scholarship**
The Hong Kong Polytechnic University 2020
- **ASM Pacific Technology Scholarship**
The Hong Kong Polytechnic University 2021
- **Mitsubishi Electric (Hong Kong) Limited Scholarship**
The Hong Kong Polytechnic University 2020–2021
- **VTech Group of Companies Scholarship**
The Hong Kong Polytechnic University 2020
- **Dr. Ng Tat-lun Memorial Scholarship**
The Hong Kong Polytechnic University 2018
- **Dean's Honours List**
The Hong Kong Polytechnic University 2018–2021
- **Best Academic Performance Award**
The Hong Kong Polytechnic University 2021
- **Best (Semester) GPA Award**
The Hong Kong Polytechnic University 2017–2021
- **Outstanding Student Award**
The Hong Kong Polytechnic University 2021
- **Gold Award, Be a Global Citizen Campaign**
Chinese YMCA of Hong Kong 2019

OTHER EXPERIENCE

- **Professional Service**
Peer reviewer for IEEE Transactions on Image Processing (TIP) and International Journal of Computer Vision (IJCV)
- **Hub of the Future** Hub Member
HSBC Scholarship leadership community; In Action program participant Feb 2021 – Present
- **United Nations Academic Impact (UNAI) & Millennium Campus Network (MCN)** Millennium Fellow
Designed and delivered financial literacy workshops for university and community students Aug 2020 – Jul 2021

LANGUAGES & INTERESTS

- **Languages:** English (Fluent), Cantonese (Native), Mandarin (Native), Chinese (Written Proficiency)
- **Interests:** Resistance Training, Swimming, Scuba Diving (AOW & Nitrox Certified)