Hsiang-Chun (Nathan) Wang

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EDUCATION

National Taiwan University (NTU) **09/2022 – 06/2024**
M.S. in Communication Engineering *Taipei, Taiwan*

Shanghai Jiao Tong University (SJTU) **09/2018 – 08/2022**
B.S. in Information Engineering *Shanghai, China*

ACADEMIC & PROFESSIONAL HIGHLIGHTS (PHOTOS)

- Specialized in reinforcement learning and deep learning during Master's studies. Spearheaded research efforts resulting in two published papers at top-tier ML conferences (NeurIPS, ICML), with poster presentations in Vienna and Vancouver. Secured support from the NSTC international travel grant. Quantified impact, with publications cited over 30 times to date.
- Won the 2024 TAAI Master's Thesis Award and the Best Master's Thesis Award from the Graduate Institute of Communication Engineering, NTU. Invited to deliver talks on research experience and contributions.
- Collaborated actively in the machine learning research community, served as a reviewer for ICLR 2025 and NeurIPS 2025.
- Received high recognition for engineering training in industry settings, including multi-threading, interprocess communication, socket programming, internationalization (I18N), and defensive programming.
- Joined UC Capital as the first member in the AI division. Successfully demonstrated RL-based strategies, prompting leadership to formally establish and expand the AI team.

WORK EXPERIENCE

UC Capital (AUM: NT$15B / US$500M) **10/2024 – present**
AI Researcher *Taipei, Taiwan*

- Spearheaded the research and development of advanced machine learning techniques to improve stock trade execution prices across trading strategies, such as ETF arbitrage entries and limit-up price locking. This initiative resulted in two patent filings and a **1 basis point (bp)** improvement in average execution price, translating to an annual profit increase of **NT$40 million** for the company.
- Utilized SQL queries and Python scripts to process and validate over **10.8TB of trading data** (2 years, 1,800 stocks, tick-by-tick records); optimized data cleaning and feature engineering pipelines, reducing processing time **from 1 week to 2 days** and significantly accelerating downstream modeling workflows.
- Collaborated with a data scientist to improve a limit-up locking strategy by identifying **8 key indicators**, cutting 2 hours from traders' daily selection time. Selected stocks gained **0.5%** more on average next day, generating an additional **NT$1 billion** annually.

RESEARCH PROJECTS

Diffusion-Reward Adversarial Imitation Learning **04/2023 – 08/2024**
Leading Author, Paper, Project Page, Code *Neural Information Processing Systems (NeurIPS) 2024*

- Spearheaded a joint research initiative with a senior NVIDIA researcher, aligning goals and streamlining cross-team execution.
- Implemented adaptive research strategies and proactively sought feedback, demonstrating resilience in the face of setbacks; accelerated progress enabled milestone completion **4 months ahead of schedule**.

Diffusion Model-Augmented Behavioral Cloning **06/2022 – 05/2024**
Leading Author, Paper, Project Page, Code *International Conference on Machine Learning (ICML) 2024*

- Spearheaded the identification of innovative research contributions, coordinated the team to devise solutions.
- Expanded the lab's research directions—my work inspired **5 follow-up works**, 2 of which were accepted by top-tier venues or integrated into ongoing industrial collaborations—consistently driving innovation and impact in the field.

EXTRACURRICULAR PROJECTS & LEADERSHIP

Autonomous Driving Team, Algorithm Group **08/2019 – 12/2020**
Algorithm Team Leader, Competition *Shanghai, China*

- Spearheaded the design and implementation of autonomous racing algorithms with real-time obstacle avoidance, collaborating with hardware engineers to streamline system integration—boosting obstacle detection accuracy **from 60% to 88%**.
- Selected as team lead for technical excellence; supervised junior members and conducted iterative testing to optimize performance.

RoboMaster Robotics Team, Algorithm Group, Second Place in 2019 National Competition **12/2018 – 09/2019**
Algorithm Team Member, Competition, Code *Shanghai, China*

- Contributed to designing, building, and programming robots for tasks like projectile targeting, obstacle navigation, and combat.
- Assisted in optimizing robot performance, enhancing efficiency in competitive tasks.

University Debate Team **09/2018 – 02/2020**
Debater and Peer Coach *Shanghai, China*

- Mastered debate techniques via Freshman Cup training; selected to represent the department in university-wide competitions.
- Mentored **8+ junior debaters**, designing and delivering **3+ training workshops** on rebuttal strategies and critical reasoning.

SKILLS/QUALIFICATIONS

Programming & Development	Python(6 years), C/C++(7 years), LaTeX, VS Code, Git, Docker, Linux, Make, CMake
Machine Learning	PyTorch(6 years), TensorFlow, HuggingFace, Scikit-learn, Weights and Biases
Data & Notebook	SQL Server, MariaDB, Jupyter Notebook, JupyterLab
Interests & Languages	Snowboard (intermediate), Lego (50+ sets built), Tennis (beginner), English (TOEFL 94)