Howard (Yuhao) Li

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EDUCATION

University of Pennsylvania Philadelphia, PA
Master of Arts in Applied Math and Computational Science Aug 2025 – May 2027
- MATH 5080 Advanced Analysis, AMCS 5100 Complex Analysis, CIS 5200 Machine Learning

Columbia University New York, NY
Non-Degree: Visiting -- Postbaccalaureate Jan 2025 – May 2025
- STAT 5203 Probability, STAT 5204 Statistical Inference, APMA4200 Partial Differential Equations

Bowdoin College Brunswick, ME
Bachelor of Arts in Mathematics and Economics Interdisciplinary Aug 2019 – Dec 2024
- Mathematics Major GPA: 3.85/4.00.
- GAP Semesters: Spring 2023, Fall 2024, Spring 2024
- Econometrics, Mathematical Economics, Mathematical Statistics, Probability, Introduction to Analysis, Linear Algebra, Optimization, Numerical Methods, Intermediate Micro, Intermediate Macro, Multivariable Calculus

Le Wagon (9-week full-time Coding Bootcamp) Shanghai, CN
Data Science with Python Jan 2023 – April 2023
- Data Analysis (NumPy, Pandas, SQL), Decision Science, Machine Learning, Deep Learning, Data Engineering
- Final Project: Applied the Recurrent Neural Network LSTM method to analyze the bid / ask info from the exchange's order book data, featuring visual displays to depict real-time future market volatility for Bitcoin.

QUANTITATIVE EXPERIENCE

Shanghai Jiao Tong University, AI Lab
Graduate Research Assistant Jun 2025 – current
- Collaborating with postdoc Xiaoxing Wang and Ning Liao on designing multi-agent LLM orchestration with continual learning and probabilistic calibration for adaptive, explainable decision-making in financial trading systems.

Fudan University, BIRL Lab (Brain-inspired Intelligent Robotics Lab)
Undergraduate Research Assistant Jun 2024 – Aug 2024
- Developed and proposed 15+ computer vision algorithms for electrical circuit identification, streamlining lab workflows by 40%; secured approval for five models for future testing, accelerating project timelines by 25%
- Integrated YOLOX object detection with SAM2 image segmentation, creating a flexible identification model across wide ranges of detection scales, increased processing speed by 30% and saving 150+ computational hours.

State Grid Shanghai Extra High Voltage Company
Undergraduate Research Assistant Jan 2023 – Apr 2024
- Proposed blockchain-based incentive mechanisms to encourage citizen participation in electrical power transmission line inspections, introducing innovative methods that significantly reduced labor inspection costs.
- Optimized backend detection algorithms, incorporating Cascade RNN, SURF, YOLOv7, and YOLOv8, achieving a 25% increase in detection accuracy and a 40% reduction in processing time, which greatly improved early hazard identification for transmission line safety.
- Presented the project at the 49th Geneva International Invention Exhibition, raising visibility among over 2,000 professionals and attracting potential collaborators.

QTG Capital Management
Quantitative Researcher April 2023 - Aug 2023
- Conducted research on forecasting the implied volatility surface of the Chinese 50 ETF options market, constructing 80+ statistical features and applying ConvLSTM encoding-forecasting model to capture spatiotemporal relationships between strikes and maturities, achieving a 15% improvement in prediction accuracy over baseline models.
- Developed and tested a rolling-window trading strategy for the Chinese ETF market, incorporating price trends, momentum, and seasonality. Previously used in the trading system, this strategy achieved a risk-adjusted return (Sharpe ratio) of 1.5, outperforming the baseline by 238.59% after accounting for trading costs.

PUBLICATIONS & CONFERENCE PAPER

PowerSAM: Edge-Efficient Segment Anything for Power Systems Through Visual Model Distillation. Nanna Yan, Yuhao Li, Yingke Mao, Zhenyi Zhu, Xiao Yu, Wenhao Guan, Jiawei Hou, Taiping Zeng. *Preprint.*

Insulator Condition Monitoring Based on TMR Leakage Current Sensors. Bing He, Xiaoyan Song, Yingyi Liu, Yuhao Li, Yun Liang, Li Huang, Xiong Li. *2024 IEEE PES 16th Asia-Pacific Power and Energy Engineering Conference* Oct 27, 2024.

Research on the Fusion Detection Method of Extreme Learning Machines and Sparse Coding. Bing He, Haoyu Song, Yingyi Liu, Yun Liang, Li Huang, Yuansheng Dai, Yuhao Li. *2024 IEEE PES 16th Asia-Pacific Power and Energy Engineering Conference,* Oct 25, 2024.

AI and Blockchain-Enabled Transmission Line Inspection System for Data Sharing. Bing He, Qi Ni, Xiaosong Xie, Mei Wang, Haoyang Wang, Qiqi Zhang, Yuhao Li, Jianguo Liu, Ze Huang, Zechi Li. *Inventions Geneva*, Apr 15, 2024.

Analysis of PD-Induced Ultraviolet Signal in GIS and Comparison with Electrical Signals. Nannan Yan, Bengang Wei, Yuhao Li, Quan Wen. *IEEE CEIDP (Conference on Electrical Insulation and Dielectric Phenomena),* Oct 21, 2019.

Predicting Failures of High Voltage Electric Power Facilities via Multidimensional Information Analysis . Zhichao Lai, Yuhao Li, Xinting Wang, Xiu Cao, Yiran Wen, Wei Geng, Yu Kang. *2018 International Conference on Mechatronic Systems and Robots*, 25 May 2018, pp. 7–13, https://doi.org/10.1145/3230876.3230892

Detecting Anomalous Users via Streaming Data Processing in Smart Grid. Yu Kang, Xinting Wang, Xiu Cao, Yangfan Zhu, Zhichao Lai, Yuhao Li, Xuqi Zhang, Wei Geng. *2018 International Conference on Mechatronic Systems and Robots*, 25 May 2018, pp. 14–20, https://doi.org/10.1145/3230876.3230893.

CERTIFICATES & REWARD

49th Geneva International Invention Gold Medalist
- Issued by International Exhibition of Inventions Geneva
- Associated with presentation: AI and Blockchain-Enabled Transmission Line Inspection System for Data Sharing.

Grua/O'Connell Fund Mini-Grant Award Recipient
- Issued by Office of Student Fellowships and Research at Bowdoin College
- Associated with IEEE CEIDP (Conference on Electrical Insulation and Dielectric Phenomena) at Washington

Coursera Certifications
- Machine Learning Specialization, Deep Learning Specialization, Mathematics for Machine Learning and Data Science Specialization, Programming in C++: A Hands-on Introduction Specialization, Neural Language Processing with Probabilistic Models, and Natural Language Processing with Classification and Vector Spaces

OTHER EXPERIENCE

Mirana Ventures (A crypto venture fund with over $2 billion undermanagement)
Investment Analyst   Jun 2022 - Aug 2022
- Conducted due diligence for a $2 million seed round on Non-fungible Tokens (NFT) curation platforms to support investment decisions, resulting in a streamlined decision-making process and securing key investor alignment.
- Identified and facilitated partnerships for NFT project Azuki with Red Bull and Bybit, resulting in a display at the final F1 match, which generated over 10,000 new users for Bybit and significant media coverage.

Doodles China (An NFT marketing, consulting, and trading community)
NFT & Digital Asset Trading Specialist   Jan 2021 – Apr 2023
- Led discretionary NFT trading and managed digital asset pre-sale contracts (similar to IPO presales) on the blockchain for Doodles China, generating profits for the mutual fund to support events and compensate non-contract employees, with an average yearly turnover volume of over $1 million USD in 2021 and 2022.

Co-Founder and Head Executive   Dec 2021 – Apr 2023
- Built a robust digital community from the ground up, growing followers by 20,000 and driving 100,000+ Twitter impressions in the first week, while hosting triweekly podcasts with high-profile guests (e.g., Jay Chou) that enhanced NFT venture exposure, secured discounted primary market allocations, and earned 5+ major feature appearances at leading venues such as China National Business Network and Shanghai Himalayas Museum.

Bybit (One of the fastest growing cryptocurrency exchanges, with over 55 million users globally)
Product Management (Derivatives and Trading Platform)   June 2020 – Aug 2021
- Developed expertise by engaging with market makers to gain insights into options trading fundamentals and risk hedging strategies, leveraging Excel to calculate and test key indicators—such as Mark Price, Implied Volatility, and Delta—ultimately enhancing Bybit's competitive positioning for its upcoming options platform release.
- Conducted sensitivity analyses and led product refinements that increased user satisfaction by 15%, boosted new user acquisition by 10%, and reduced platform-related support inquiries by 20%.