Jinyuan Sun

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Education

National University of Singapore, MSc. in Computer Engineering   Aug. 2024 – Jun. 2025
- **GPA:** 4.25/5.0 (Transcript), Capstone project: Quantum Vulnerability Analysis Engine
- **Graduate Assistant:** Assisted with EE5139 Information Theory and its Applications & EE2028 Microcontroller Programming and Interfacing.
- **Coursework:** Machine Learning, Computer Network, Blockchain Engineering, Venture Capital etc.

Queen Mary University of London, BS. in Internet of Things Engineering   Sep. 2020 – Jun. 2024
- **GPA:** 4.0/4.0 (Transcript), **First Class** Honors Degree(Certificate),
- **Dual degree:** Beijing Universit of Posts and Telecommunications, BEng.
- **Awarded:** Outstanding Graduate Award of year 2024, **National Scholarship of China**(Certificate)
- **Coursework:** Data Structures, Linear Algebra, Probability Theory, Database, Software Engineering, Control Theory

Publications

Thinking Image Color Aesthetics Assessment: Models, Datasets and Benchmarks   Jul. 2023
Shai He, Anlong Ming, Yaqi Li, *Jinyuan Sun*, ShunTian Zheng, Huadong Ma
Proceedings of the IEEE/CVF International Conference on Computer Vision, 2023, pp. 21838-21847, Repo, H5 index 291

Work Experiences

Front Office Quantitative Strategist, DBS Pte Ltd. (via PERSOLKELLY) – Singapore   Jun. 2025 – Present
- Build exotic derivatives pricing engine to support traders and sales.
- Develop portfolio risk analysis and monitoring platform for GFM.
- Generate trading signals for traders (support desk: FX, Equity, Commodities).

Quantitative Analyst, Intern, Cipherbridge Capital Partners – Remote   Oct. 2024 – May 2025
- Led the development of a CEX-DEX arbitrage strategy in crypto market, with an ARR of 30%. (Python)
- Develop a high efficiency OTC platform for on-chain transfer. (Golang)
- In charge of the back-end design of AI agent in decentralize exchange to automate trading. (prototype)
- In charge of the aggregate orderbook and exchange execution module in a HFT system. (Python, Rust)

AIGC Algorithm Engineer, Intern, JS Design Ltd. – Beijing, China   Apr. 2024 – Aug 2024
- Led the development of a ControlNet-based solution to address hand mis-generation issues in AI-generated images, significantly improving the accuracy and realism of hand depictions.
- Trained and fine-tuned the ControlNet model, implementing advanced techniques to enhance the network's understanding of human anatomy and ensure consistent, high-quality results.
- Collaborated with cross-functional teams to integrate the improved ControlNet model into production pipelines.

SI Product Manager(Data Science), Intern, SIEMENS Ltd. – Beijing, China   Oct. 2023 – Mar. 2024
- Applied ML & statistical methods and data visualization techniques for meaningful insights over 50M records.
- Analyzed diverse datasets, including manufacturing, supply chain, and customer feedback.
- Developed interactive dashboards for effective communication of key performance indicators.
- Assisted in managing SIVACON and SIBOARD partner and low voltage product line.

Research Experience

Research Assistant, Intern, School of Computing, NUS – Singapore   Aug. 2024 – Dec. 2024
- Supervised by Prof. Chua Tat-Seng, NExT++ Research Centre, School of Computing at NUS.
- Led the model development of Graph RAG based multimodal LLMs in Finance.

Research Assistant, Intern, Nanyang Technology University of Singapore – Singapore   Mar. 2024 – Dec. 2024

- Collaborating on RL-based Transfer Learning for EEG Sleep Staging in Prof. Liu Yang's Group.
- Developed and fine-tuned models to improve sleep stage classification accuracy across different domains.
- Collaborated on the design and implementation of experiments to evaluate model performance and generalization.
- The work has submitted to IEEE TPAMI

Research Assistant, Intern, School of CS, BUPT – Beijing, China   Jan. 2023 – Jul. 2023

- Supervised by Prof. Anlong Ming, School of Computer Science at Beijing University of Posts and Telecommunication.
- Developed a deformable transformer module to enhance Swin Transformer's backbone, enabling improved long-range relationship capture.
- Trained the proposed module on the self-designed ICAA17K dataset, evaluated performance against 14 SOTA models.
- Led the Model section and contributed to the Introduction, Approach, and Experiments of the ICCV 2023 paper "Thinking Image Color Aesthetics Assessment."

Research Assistant, Intern, School of AI, RUC – Beijing, China   Sep. 2022 – Apr. 2023

- Supervised by Prof. Zhiwu Lu, Gaoling School of Artificial Intelligence at Renmin University of China.
- Organized and pre-processed a Chinese painting dataset, and trained a diffusion model on A100 GPUs to generate stylistically accurate images.
- Leveraged CLIP for image retrieval and denoising, enabling image-guided generation.

Projects

Online Research Seminar: Machine Learning for Finance and Python   Aug. 2023 – Oct. 2023

- Mentored by Patrick Rebeschini, Professor of Statistics and Machine Learning, Oxford University.
- Applied state-of-the-art ML modals to address financial challenges using synthetic datasets.
- Completed the research paper of A Comparative Analysis of Portfolio Optimization: LSTM vs. Random Forests and the paper is accepted by CONF-SPML 2024 (The 4th International Conference on Signal Processing and Machine Learning)

Team Project: AI-Driven Minority Culture Protection and Promotion   Feb. 2023 - Aug. 2023

- Built a 40GB database with Java Spring Boot and MySQL to preserve and promote minority cultures.
- Integrated CLIP for multi-modality retrieval and image semantic understanding in the database.
- Secured 1st Prize in the 13th National E-commerce Innovation Challenge (China) and 2nd Prize in the 8th China International "Internet Plus" Competition. Granted Software Copyright by the National Copyright Administration.

Team Project: Menura AI- Artificial Intelligence Enables Intelligent Light and Shadow   Jan. 2022 - Aug. 2022

- Enhanced Star-GAN modules by incorporating a shared training module, improving MCD and MSD scores by 12% and 8%, respectively, for more authentic faces and voices.
- Deployed the improved model on an Android app, showcasing practical real-world applications.
- Secured the National Bronze Award representing the project at the 8th China College Students' 'Internet Plus' Innovation and Entrepreneurship Competition.

Skills

Languages: English (Fluently, IELTS 7.5), Mandarin (Fluently)

Programming Languages: Python(4yrs), C++(4yrs), Java(3yrs), SQL(3yrs), Matlab(2yrs), GoLang(1yrs)

Knowledge: AI, LLM, Crypto, DeFi, Web3, Quantitive trading framework, HFT, Market making, Arbitrage, Data analysis, back-end development ...