

# Jinyuan Sun

120707, Singapore | [jinyuans618@gmail.com](mailto:jinyuans618@gmail.com) | +65 8476 0986 | [Personal website](#) | [Linkedin](#) | [Github](#)

## Education

**National University of Singapore**, MSc. in Computer Engineering Oct. 2024 – Present

- **Coursework:** Machine Learning, Computer Network, Microeconomics, Cellular Network,

**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](#))
- **Coursework:** Data Structures, Linear Algebra, Probability Theory, Database, Software Engineering

## 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 (ICCV), 2023, pp. 21838-21847, [Github Repo](#)

## Research Experience

**AIGC Algorithm Engineer, Intern**, RuiYunXueChuang 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 Assistant**, 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**, 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

**Individual Project: Wordle Game Development** [Github Repo](#)

- Developed a Java version of Wordle based on Swing which has a GUI and consists of 2500+ words.
- Tools Used: Java, Java Swing

**Online Research Seminar: Hands-on 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 models 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 13<sup>th</sup> National E-commerce Innovation Challenge (China) and 2<sup>nd</sup> Prize in the 8<sup>th</sup> China International "Internet Plus" Competition. Granted Software Copyright by the National Copyright Administration.
- Tool Used: PyTorch, Python, SQL, Java SpringBoot

**Team Project: 5G-based Smart Water Device For Floating Garbage Cleaning**

Apr. 2022 - Jul. 2022

- Led design of a catamaran with a unique drainage fork and trash basket. Modeled hull in SolidWorks and used 3D printing for fabrication and assembly.
- Led electric control design, using a Raspberry Pi for interface and 5G for real-time data analysis from the onboard camera. Implemented YOLO V5, achieving 98.87% accuracy on a river-floating garbage dataset.
- Secured 2<sup>nd</sup> Prize in the 10th National College Students Mechanical Innovation Design Competition (Beijing division).

**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.

## Awards And Additional Experience

---

**Teaching Assistant (Present):** Assisted with EE5139 Information Theory and its Applications.

**Outstanding Graduate Award (2024):** Recognized for academic excellence and leadership, awarded to the top-performing graduates of 2024.

**Computer Software Copyright (2023):** Granted Computer Software Copyright (Software Name: Data Management Generation System Based on Database and Artificial Intelligence V1.0) by National Copyright Administration of China.

**National Scholarship of China (2022):** Ranked **top 0.01%** above all Undergraduates in China.

**XIII Paralympic Winter Games Volunteer (2022):** Worked as a TEC Assistant and maintained all IT devices.

**Student Union Office Director(2021):** Organized all kinds of student activities through close cooperation and coordination with all departments at the student union.

**Xiaomi Student Ambassador(2022):** Promoted to Lead Student Ambassador of BUPT, supervised 10-15 Student Ambassadors.

## Skills

---

**Languages:** English (Fluently), Mandarin (Fluently)

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