Qiwen Xiao

Shenzhen, China | 12211634@mail.sustech.edu.cn | github.com/Charley-xiao

Education

Southern University of Science and Technology of China (SUSTech) Sep 2022 – (Jun 2026)
- B.Eng. in Computer Science and Technology

University of California, Irvine Sep 2025 – (2027)
- 3+2 Engineering Program, Henry Samueli School of Engineering

University of California, Davis Jun 2024 – Sep 2024
- Global Study Program (Summer Sessions I & II)

Research

Undergraduate Researcher, HPC Forge @ UC Irvine Jan 2026 – Mar 2026
- Advised by Prof. Aparna Chandramowlishwaran under EECS199, Winter 2026.
- Studied fused W4A16 INT4 weight-only GEMM in Triton for LLM inference.
- Implemented and benchmarked fused data-parallel and split-K kernels for decode and prefill regimes.

Undergraduate Research Assistant, Computer Vision Lab @ UC Irvine Sep 2025 – Jan 2026
- Advised by Prof. Glenn Healey under EECS199, Fall 2025.
- Aiming at wild fire prevention, utilized XGBoost to discover the relationship between radiance spectrum and water thickness of various vegetation.
- Leveraged Levenberg–Marquardt algorithm and PROSPECT leaf model to find the best leaf parameters for a reflectance spectrum.

Undergraduate Researcher, AI Research Institute @ Shenzhen MSU-BIT University Sep 2024 – Aug 2025
- Advised by Prof. Xitong Li and Prof. Shijie Zhang.
- Developed as first author StyleMeta – a novel meta network that combines flow matching with dynamic parameter generation to rapidly produce high-quality, multi-style graphical layouts while significantly reducing training time and computational overhead (paper under review at ICWS'26).

Undergraduate Researcher, ARiSE Lab @ SUSTech Jan 2024 – Jul 2025
- Advised by Prof. Yuqun Zhang.
- Leveraged entropy information to evaluate patch correctness and facilitate ranking of patches generated by large language models trained on code.
- Engaged in training a large language model on code using Megatron, theoretically and empirically discovering that dependency context facilitates convergence.

Member, Supercomputing Team @ SUSTech Sep 2023 – Sep 2025
- Advised by Prof. Zhuozhao Li.
- Participated in supercomputing competitions including ASC24, APAC24, IndySCC24, ISC25, and ICT25.
- Exhibitor at SC24.
- Co-organized the 2nd SUSTech SuperComputing Competition and served as the task maker of optimizing CloverLeaf, a mini-app for high-performance computing (Website).

Projects

Physics-Guided Conditional Flow Matching for Lensless Imaging, 2026 Charley-xiao/lensless-flow
- The first to formulate lensless reconstruction as conditional generation and study its empirical advantages over optimization-based and supervised baselines.
- Compared two practical parameterizations, velocity prediction and image prediction with induced velocity.
- Final project of *EECS298: Computational Optics* at UC Irvine. **(Best Technical Project Award)**

ODE Samplers for Rectified Flow Generative Models, 2025 Charley-xiao/cs274e-project
- Experimentally and theoretically compared six different ODE samplers in the context of rectified flow generative models and discussed various trade-offs and which one to use given certain constraints.
- Final project of *CS274E: Deep Generative Models* at UC Irvine. **(Full marks)**

Boston in 3D: A Citywide Object Archive Using Nerfstudio, 2025 Charley-xiao/NVIDIA_MIT
- Led a team to reconstruct objects across the city of Boston using Nerfstudio and to develop an interactive map.
- Final project of *MIT Blended Learning* at MIT.

Explainable Writing Style Detection, 2024 Charley-xiao/ecs171-project
- Developed a novel pipeline for writing style detection and authorship attribution, which combines a fastText-based text classifier with SHAP and LIME for model explainability and features real-time visualization.
- Final project of *ECS171: Machine Learning* at UC Davis. **(Full marks)**

GalaGuide, 2024 sustech-cs304/galaguide

- Built a cross-platform software application as your personal manager for campus events and reservations.
- Final project of *CS304: Software Engineering* at SUSTech.

Skills

Programming Languages: C++, C, Java, Python, SQL, JavaScript, MATLAB, Kotlin,...

Technologies: PyTorch, Transformers, Diffusers, Vue3, Tornado, React.js,...

Human Languages: Mandarin (Native), English (C1), Spanish (B1).

Awards

Second Prize, Asian Supercomputing Challenge (ASC) 2024

Second Prize, The 2nd SUSTech Quantitative Trading Competition 2023

Grand Prize, NECCS (National English Competition for College Students) 2023, 2024

Second Prize, National Olympiad for Informatics (Provincial) 2019, 2020