Baiyan Li

Computer Science
BSc Computer Science (Joint Programme)
Beijing Jiaotong University & Lancaster University (Year 2)

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Research Interests

I am broadly interested in generative models for interactive visual media, especially games and animation. I aim to develop and adapt GAN-, VAE-, and diffusion-based architectures for controllable content creation and real-time interaction in complex 3D environments.

Education

•Beijing Jiaotong University & Lancaster University *2024.09 – Present*
BSc in Computer Science (Joint Programme) GPA: 3.71 / 4.0

Research Experience

•Concept-Based Dictionary Learning for Inference-Time Safety in VLA Models *Beijing*
Core Experimental Contributor 2025.01 – Present

- Manuscript under review at the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR).
- Extend and maintain a PyTorch pipeline for concept-dictionary defences in Vision–Language–Action (VLA) models, including model wrappers, hooks, and logging.
- Lead ablation experiments and dataset curation to evaluate safety under adversarial and out-of-distribution prompts in simulated and real-world-like environments.

Projects

•AI-Powered Real-Time Lighting Control (AI-FOR-LIGHT) *2025*
PyTorch, Unreal Engine (C++ / Blueprints) Research prototype in real-time 3D environments

- Explore the project on GitHub: AI-FOR-LIGHT GitHub Repository.
- Built a prototype that integrates deep models into a real-time engine to automatically control scene lighting.
- Explored policy learning for adaptive lighting that balances visual quality with computational and energy cost.

•LLM-Based Social Media Content Generator *2025*
Python, LLM APIs Idea-to-post pipeline using large language models

- Explore the project on GitHub: Social Media Content Generator GitHub Repository.
- Designed a pipeline to generate structured, style-consistent posts from brief prompts using large language models.
- Implemented controllable generation via prompt templates and tag conditioning, iterating with small-scale user feedback.

Experience

•Kaggle – RSNA Intracranial Aneurysm Detection *Remote*
Developer & Competitor (Top 15% among 1000+ teams) 2025

- Developed CNN-based models for 3D medical imaging (DICOM) focused on intracranial aneurysm detection.
- Implemented preprocessing and training strategies (augmentation, ensembling, post-processing) to reach a top-15% leaderboard ranking.

•ICPC-Style Programming Contests *university contests*
Team Member 2024 – Present

- Regularly participate in ICPC-style contests, solving algorithmic problems in C++ under tight time constraints.
- Practice spans graph algorithms, dynamic programming, greedy methods, data structures, and basic computational geometry; earned a Bronze Medal in the Weihai Municipal University Students Programming Contest.