

Yuqi Wang

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Education

The Hong Kong Polytechnic University, Hong Kong

Sep 2023 - Jun 2027 (Expected)

• BSc Computer Science, Advised by Prof. Bing Wang

GPA: 3.89 | In-major: 3.98 (Top 5%)

• **Research Focus:** Spatial Reasoning, World Models, Computer Vision

Research Interests

I am interested in what representations do we need to achieve **visual intelligence**. To date, I have explored this question through **spatial reasoning** via explicit scene graphs decomposition, and **world models** where latent structure naturally emerges. I hope to develop models that can learn predictive representations of the world.

Publications

R³L: Reasoning 3D Layouts from Relative Spatial Relations

Zhifeng Gu*, Yuqi Wang*, Bing Wang (*Equal Contribution)

ICML 2026

Research Experience

Spatial Reasoning for 3D Layout Generation

Jul 2025 - Jan 2026

SPACE Group, HK PolyU, Advised by Prof. Bing Wang

- Presented a general framework for 3D layout generation to improve the reliability of multi-hop spatial reasoning.
- Originated three ideas: invariant spatial decomposition, consistent spatial imagination, and spatial optimization.
- Paper accepted to ICML 2026 as Co-first author.

Representation Learning for Latent World Models

Nov 2024 - Jun 2025

Undergraduate Research and Innovation Scheme (URIS), Advised by Prof. Bing Wang

- Studied representation bottlenecks for reducing error accumulation in latent dynamics prediction.
- Developed a loopback mechanism that couples forward and backward dynamics models, aligning per-step latent states as an implicit past-future mutual-information constraint.

Selected Projects

Beyond Binary: Calibrated Risk Stratification for Pattern Discovery

Nov 2025

Data Mining Project, Sole Author

- Proposed a unified three-stage framework for medical pattern discovery beyond binary prediction.
- Utilized calibrated prediction to residualize TFM feature manifold, which then aids risk-aware pattern discovery.

Feature Engineering and Tabular Foundation Model Stacking

Oct 2025

Machine Learning Project, Team Lead

- Conducted a comprehensive empirical study comparing classical models and TFMs on tabular data.
- Developed a TFM stacking pipeline achieving 0.10939 RMSLE (Top 10 on Kaggle, excluding probe).

Selected Honors and Awards

• Dean's Honors List for outstanding academic performance × 2

2023/24, 2024/25

• PolyU Freshmen Programming Contest, 1st Runner-up

2023

Core Skills

• **Language & Frameworks:** Python, PyTorch, Java, C/C++, etc.

• **Tools:** Git, Linux/Ubuntu, Docker, LaTeX, Weights & Biases (W&B), Excel, etc.