

# Xianbang Wang

+1 (617) 251-7258 / +86 187-0136-7918  
xbwang@mit.edu / kevinxbwang@gmail.com

## EDUCATION

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Massachusetts Institute of Technology

Undergraduate

Sep 2025 ~ Now

IIIS, Tsinghua University

Pre-college Program

Sep 2023 ~ July 2025

## RESEARCH INTERESTS

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Deep Learning, Computer Vision, LLMs, Robotics, Algorithms, Quantum Computation.

## HONORS

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Gold Medal

International Mathematics Olympiad (IMO)

2024

Silver Medal

National Olympiad in Informatics (NOI)

2021 & 2022

17th Place in Open Contest

USA Computing Olympiad (USACO)

2022

## PUBLICATIONS

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Y. Lu\*, Q. Sun\*, **X. Wang\***, Z. Jiang, H. Zhao, K. He

Bidirectional Normalizing Flow

Submitted to CVPR 2026. arXiv: 2512.10953

Y. Lu\*, Y. Tian\*, Z. Yuan\*, **X. Wang**, P. Hua, Z. Xue, H. Xu

H<sup>3</sup>DP: Triply-Hierarchical Diffusion Policy for Visuomotor Learning

ICLR 2026. arXiv: 2505.07819

J. Chen\*, Y. Zhao\*, J. Yu\*, R. Chu, J. Chen, S. Yang, **X. Wang**, Y. Pan, D. Zhou, H. Ling, H.

Liu, H. Yi, H. Zhang, M. Li, Y. Chen, H. Cai, S. Fidler, P. Luo, S. Han, E. Xie

SANA-Video: Efficient Video Generation with Block Linear Diffusion Transformer

ICLR 2026. arXiv: 2509.24695

S. Yang, W. Huang, R. Chu, Y. Xiao, Y. Zhao, **X. Wang**, M. Li, E. Xie, Y. Chen, Y. Lu, S.

Han, Y. Chen

LongLive: Real-time Interactive Long Video Generation

ICLR 2026. arXiv: 2509.22622

## INTERNSHIPS & ACTIVITIES

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Undergraduate Research in Computer Vision

Supervised by Prof. Kaiming He, MIT

2025.2 ~ Now

Conduct research at deep visual generative models, including Diffusion Models, Flow Models and Normalizing Flows. Develop model codebases and workflows in Google TPU. A paper will be published soon (targeting CVPR 2026).

### Research in Robotics

Supervised by Prof. Huazhe Xu, IIS, Tsinghua University

2024.9 ~ 2025.7

Conduct research at machine learning techniques in robotics. Published a paper about improving the Diffusion Policy algorithm on robotic manipulation tasks.

### Tencent Spark Program

Tencent

2023 (Student) & 2024, 2025 (TA)

A 1-week program for high school students to experience the cutting-edge technologies in AI and quantum computing, and also the working environment. I was selected as the “challenge star” of *Quantum* track in 2023, teaching assistant in *AI for Medicine* track in 2024 and *Chain-of-thought (CoT)* track in 2025.

## PROJECTS

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### Deep Learning Review Session

2025

- Lecturer of the review session for *Deep Learning* at IIS, Tsinghua University in 2025.
- Contents include image generative models (EBM, Normalizing Flow, VAE, GAN, Diffusion Models), sequential models (Recursive Networks, Transformer), and LLMs.

### Flow-made Anime Characters

2025

[https://github.com/PeppaKing8/dl\\_project](https://github.com/PeppaKing8/dl_project)

- Project for the course *Deep Learning* at IIS, Tsinghua University, completed in a team of 2.
- This project is selected as *the most popular project (top 1)*.
- Utilized Normalizing Flows to generate anime characters. Reproduced the existing state-of-the-art NF models, and migrated training to Fourier feature space, which stabilized training and outperformed baselines by a significant margin.

### Randomized Techniques in Graph Algorithms

2024

<https://github.com/PeppaKing8/algdesign-project>

- Project for the course *Algorithm Design* at IIS, Tsinghua University, completed in a team of 2.
- This project *receives 6 bonus points for creativity*.

### Customized Cloth-Fluid Simulation System Using C++ and CUDA

2024

[https://github.com/HACLIN/ACG\\_Project](https://github.com/HACLIN/ACG_Project)

- Project for the course *Advanced Computer Graphics* at IIS, Tsinghua University, completed in a team of 2.
- This project is one of the *top-3 projects on simulation track*.
- Implemented the point-based cloth simulation method (XPBD) and the cloth-fluid coupling pipeline including collision detection, constraint solving and rendering. CUDA acceleration is utilized.

### Do LLMs Outperform Multi-task Learning Expert in Medical Report Generation?

2024.12

<https://github.com/Lyy-iiis/Crayon-new>

- Project for the course *Natural Language Processing* at IIS, Tsinghua University, completed in a team of 3.
- This project is selected for *oral presentation*.
- Examined the performance of LLMs on medical report generation tasks, showing the downside of fine-tuned LLMs compared with from-scratch experts in domain-specific language tasks. Implemented multi-task learning pipeline to outperform state-of-the-art solutions on several benchmarks.

## ADDITIONAL INFORMATION

### Transcript at IIS

All of the *professional* courses taken at IIS is shown below.

Year-Semester	Course Title	Credit	Grade
2023-Fall	Introduction to Computer Science	3	A
	Introduction to Programming in C/C++	2	A+
	Calculus A (1)	5	A
	Linear Algebra	4	A
2024-Spring	Mathematics for Computer Science and Artificial Intelligence	4	A+
	Calculus A (2)	5	A
	General Physics (1)	4	A-
	Abstract Algebra	4	A+
2024-Fall	Advanced Computer Graphics	4	A
	Natural Language Processing	3	A+
	Machine Learning	4	A+
	Algorithm Design	4	A+
	Artificial Intelligence: Principles and Techniques	3	A
	Embodied AI	3	A
	General Physics (2)	4	A
2025-Spring	Deep Learning	3	A+
	Computer Vision	3	A+
	Introduction to Computer Systems	4	A
	Quantum Computer Science	4	A
	Multi-modal Machine Learning	2	A

### Transcript at MIT

All of the *professional* courses taken at MIT is shown below.

Year-Semester	Course Title	Credit	Grade
2025-Fall	18.435 Quantum Computation	12	A
	18.404 Theory of Computation	12	A+

### Self-Studied/Audited Courses

- CS285: Deep Reinforcement Learning. Instructor: Sergey Levine, UC Berkeley.
- 6.S978: Deep Generative Models. Instructor: Kaiming He, MIT.
- 6.4210: Robotic Manipulation. Instructor: Russ Tedrake, MIT.