

# Mingyang Deng

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## RESEARCH INTEREST

Understand and advance the intelligence of generative foundation models.

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## EDUCATION

**Massachusetts Institute of Technology,**  
*PhD Student*

Sep 2024 – Present  
Cambridge, MA

**Massachusetts Institute of Technology, (GPA : 5.00/5.00)**  
*Undergraduate student in Mathematics/Electrical Engineering and Computer Science*

Sep 2020 – May 2024  
Cambridge, MA

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## AWARDS

<i>Gold medal (1st place)</i> , 45th Annual ICPC World Finals	Nov 2022
<i>Putnam Fellow</i> , 83rd William Lowell Putnam Competition	Dec 2022
<i>Gold medal (1st place)</i> , 33rd International Olympiad in Informatics	Jun 2021
<i>Gold medal</i> , 60th International Mathematical Olympiad	Jul 2019

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## SELECTED PUBLICATIONS

### Generative Modeling & Machine Learning

- Generative Modeling via Drifting . Preprint.  
Mingyang Deng, He Li, Tianhong Li, Yilun Du, Kaiming He  
<https://arxiv.org/pdf/2602.04770>
- Mean Flows for One-step Generative Modeling . NeurIPS 2025 (Oral).  
Zhengyang Geng, Mingyang Deng, Xingjian Bai, J. Zico Kolter, Kaiming He  
<https://arxiv.org/abs/2505.13447>
- Autoregressive Image Generation without Vector Quantization. NeurIPS 2024 (Spotlight).  
Tianhong Li, Yonglong Tian, He Li, Mingyang Deng, Kaiming He  
<https://arxiv.org/abs/2406.11838>
- Restart Sampling for Improving Generative Process. NeurIPS 2023.  
Yilun Xu\*, Mingyang Deng\*, Xiang Cheng\*, Yonglong Tian, Ziming Liu, Tommi Jaakkola  
<https://arxiv.org/pdf/2306.14878.pdf>

### Theoretical Computer Science & Mathematics

- Uniform sets with few progressions via colorings. Mathematical Proceedings of the Cambridge Philosophical Society.  
Mingyang Deng\*, Jonathan Tidor\*, Yufei Zhao\*  
<https://arxiv.org/abs/2307.06914>
- On Problems Related to Unbounded SubsetSum: A Unified Combinatorial Approach. SODA 2023.  
Mingyang Deng\*, Xiao Mao\*, Ziqian Zhong\*  
<https://epubs.siam.org/doi/abs/10.1137/1.9781611977554.ch114>
- Approximating Knapsack and Partition via Dense Subset Sums. SODA 2023.  
Mingyang Deng\*, Ce Jin\*, Xiao Mao\*  
<https://epubs.siam.org/doi/abs/10.1137/1.9781611977554.ch113>
- New additive approximations for shortest paths and cycles. ICALP 2022.  
Mingyang Deng\*, Yael Kirkpatrick\*, Victor Rong\*, Virginia Vassilevska Williams\*, Ziqian Zhong\*  
<https://doi.org/10.4230/LIPIcs.ICALP.2022.50>
- New Lower Bounds and Upper Bounds for Listing Avoidable Vertices. MFCS 2022.  
Mingyang Deng\*, Virginia Vassilevska Williams\*, Ziqian Zhong\*  
<https://drops.dagstuhl.de/entities/document/10.4230/LIPIcs.MFCS.2022.41>

## INVITED TALKS

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### Invited talks on drifting models

- CCVL Research Group, Johns Hopkins University Apr 2026
- Boston University, Boqing Gong's Lab Apr 2026
- E14 Research Talk Series Apr 2026
- Google DeepMind, Nano Banana Team Mar 2026
- Cohere Labs, Guest Speaker Session Mar 2026
- Delta Institute Podcast Mar 2026
- Vincent Sitzmann's Group Meeting Feb 2026
- Starkly Speaking Seminar Feb 2026
- Tsinghua University, ML Foundations Reading Group Feb 2026

## EXPERIENCE

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**Research Internship on Generative modeling** Jun 2025 – Aug 2025  
*Meta FAIR*

- Contributed to video generation efforts using flow matching.

**Research Internship on Solving Math Problems** Jun 2024 – Aug 2024  
*Google Deepmind*

- Leveraged inference scaling to construct reward models guiding math olympiad problem solving.
- Key contributor to the AI model that achieved silver medal-level performance on International Mathematical Olympiad problems.

**Research Internship on Video Generation** Oct 2023 – Dec 2023  
*Pika lab*

- Addressed challenges in video generation, including camera motion, context length extension, and data scraping.

**Research on Diffusion models** Mar 2023 – May 2024  
*MIT; Supervised by Prof. Tommi Jaakkola*

- Proposed restart sampling for diffusion models (NeurIPS 2023).