

Yonghao Yu

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BIOGRAPHY

I am a third-year Ph.D. student from Yamasaki Lab, the University of Tokyo. My recent research mainly focuses on computer vision, including **image**, **video** and **3D generation**.

EDUCATION

The University of Tokyo

Ph.D. Student, Graduate School of Information Science and Technology, Yamasaki Laboratory Oct. 2024 – Sep. 2027 Japan

Waseda University

Master of Engineering, Graduate School of Information, Production and Systems Oct. 2022 – Sep. 2024 Japan

Sichuan University

Bachelor of Engineering in Cyber Science and Engineering Sep. 2019 – Jun. 2023 China

EXPERIENCE

Research Intern

Alaya Lab Sep. 2026 – Present

- Conduct research on 3D generation and programmable worlds.
- First author of MeshAxiom, an agent-native 3D foundation stack; co-author of WorldSculpt, KaiNinja and EditHero.

Research Assistant

The University of Tokyo Oct. 2024 – Present

- Conduct research on large-scale visual generative modeling under the Collaborative Industry Program.
- Optimize multi-node distributed training on A100/H100 clusters for visual generative modeling.

PUBLICATIONS

Video-Mirai: Autoregressive Video Diffusion Models Need Foresight

Yonghao Yu, Lang Huang, Runyi Li, Zerun Wang, Toshihiko Yamasaki

- In Advances in Neural Information Processing Systems (NeurIPS), 2026.
- Proposed Video-Mirai, a training-only foresight objective for autoregressive video diffusion models with zero inference overhead, improving VBench scores and long-horizon consistency.

Mirai: Autoregressive Visual Generation Needs Foresight

Yonghao Yu, Lang Huang, Zerun Wang, Runyi Li, Toshihiko Yamasaki

- In Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2026.
- Proposed Mirai, a general foresight-based training framework for visual autoregressive models without architecture changes or inference overhead. Achieving up to 10× faster convergence and reduced ImageNet FID.

BoostDream: Efficient Refining for High-Quality Text-to-3D Generation from Multi-View Diffusion

Yonghao Yu, Shunan Zhu, Huai Qin, Haorui Li

- In Proceedings of the 33rd International Joint Conference on Artificial Intelligence, 2024.
- Developed BoostDream, an efficient 3D refinement method integrating feed-forward generation and multi-view SDS, significantly improving quality and efficiency in text-to-3D synthesis.

Spotlight on Video Piracy Websites: Familial Analysis Based on Multidimensional Features

Chenlin Wang, Yonghao Yu, Ao Pu, Fan Shi, Cheng Huang

- In Proceedings of the 15th International Conference on Knowledge Science, Engineering and Management, 2022.
- Proposed a proactive detection and clustering framework for video piracy websites, achieving 96.2% detection accuracy and enabling comprehensive family-level analysis across layout, content, and infrastructure features.

PROJECTS

MeshAxiom: An Agent-Native 3D Foundation Stack for Programmable Worlds

Yonghao Yu, Ruihan Yu, Sho Kuno, Muyao Niu, Yu-Ju Tsai, Zheng-Hui Huang, Fengbo Lan, Guixu Lin, Runyi Li, Chuanhao Li, Ming-Hsuan Yang, Kaipeng Zhang, Zhixiang Wang

- Open-source release with Alaya Lab, 2026: project page, code and MeshAxiom-Base model weights.
- Developed MeshAxiom-Base, which generates compact explicit meshes from one image and a requested face budget, with file-based tools that let agents inspect, edit and reuse the meshes as modules in scene programs.

Logit Poisoning Attack in Distillation-based Federated Learning and its Countermeasures

Yonghao Yu, Shunan Zhu, Jinglu Hu

- arXiv:2401.17746, 2024.
- Proposed a two-stage logit poisoning attack targeting knowledge distillation in federated learning, and introduced an efficient defense algorithm based on benign logit distance estimation, demonstrating significant attack effectiveness and robust mitigation.

LANGUAGE AND SKILLS

Programming Languages: Python, Shell

Skills and Platforms: Pytorch, Linux.

Languages: Chinese: Native, English: Fluent (TOEFL 94)

HONORS AND AWARDS

JST SPRING Program

Japan Science and Technology Agency, Support for Pioneering Research Initiated by the Next Generation Japan
2024 – 2027