

Jianhao Yuan

PERSONAL INFORMATION

DPhil Student, University of Oxford

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EDUCATION

University of Oxford

DPhil in Robotics

Supervisors: Prof. Daniele De Martini, Prof. Paul Newman, and Prof. Philip Torr

Oxford, UK

Oct 2023 – Present

University of Oxford

MEng. in Engineering Science, First Class Honors

Supervisors: Prof. Nick Hawes and Prof. Clive Siviour

Oxford, UK

Sep 2019 – Jun 2023

EXPERIENCE

Meta FAIR

Research Scientist Internship

- Work on physically consistent video generative model at Facebook AI Research
- Hosted by Prof. Adriana Romero Soriano, Dr. Michal Drozdal.

Montreal, Canada

June 2026 – Nov 2026

Meta FAIR

Research Scientist Internship

- Work on physically consistent video generative model at Facebook AI Research
- Hosted by Prof. Adriana Romero Soriano, Dr. Michal Drozdal and Dr. Nicolas Ballas.

Montreal, Canada

June 2025 – Dec 2025

Amazon

Applied Scientist Internship

- Work on controllable and consistent content generation with diffusion-based video generative model at Studio AI Lab, Prime Video
- Hosted by Dr. Kurt Cutajar and Dr. Massimo Camplani.

London, UK

Sep 2024 – Mar 2025

Oxa

Research Internship

- Work on scenario generation and explanation for autonomous driving navigation using generative world model.
- Hosted by Dr. Felipe Codevilla.

Oxford, UK

May 2024 – Aug 2024

PUBLICATIONS

Full Publication list on [Google Scholar]

- [1] Inference-time Physics Alignment of Video Generative Models with Latent World Models. Jianhao Yuan, Xiaofeng Zhang, Felix Friedrich, Nicolas Beltran-Velez, Melissa Hall, Reyhane Askari-Hemmat, Xiaochuang Han, Nicolas Ballas, Michal Drozdal, Adriana Romero-Soriano. Conference on Computer Vision and Pattern Recognition (CVPR) Highlight, 2026.
- [2] LikePhys: Evaluating Intuitive Physics Understanding in Video Diffusion Models via Likelihood Preference. Jianhao Yuan, Fabio Pizzati, Francesco Pinto, Lars Kunze, Ivan Laptev, Paul Newman, Philip Torr, Daniele De Martini. International Conference on Learning Representations (ICLR), 2026.
- [3] RAG-Driver: Generalisable Driving Explanations with Retrieval-Augmented In-Context Learning in Multi-Modal Large Language Models. Jianhao Yuan, Shuyang Sun, Daniel Omeiza, Bo Zhao, Paul Newman, Lars Kunze, Matthew Gadd. Robotics: Science and Systems (RSS), 2024.

- [4] Not Just Pretty Pictures: Toward Interventional Data Augmentation Using Text-to-Image Generators. Jianhao Yuan^{*}, Francesco Pinto^{*}, Adam Davies^{*}, Philip Torr. International Conference on Machine Learning (ICML), 2024.
- [5] Real-Fake: Effective Training Data Synthesis Through Distribution Matching. Jianhao Yuan, Jie Zhang, Shuyang Sun, Philip Torr, Bo Zhao. International Conference on Learning Representations (ICLR), 2024.
- [6] Spatialbot: Precise spatial understanding with vision language models. Wenxiao Cai, Iaroslav Ponomarenko, Jianhao Yuan, Xiaoqi Li, Wankou Yang, Hao Dong, Bo Zhao. International Conference on Robotics and Automation (ICRA) 2025.
- [7] Bayesian Radar Cospace: Directly estimating location uncertainty in radar place recognition. Suyash Agarwal, Jianhao Yuan, Paul Newman, Daniele De Martini, Matthew Gadd, IET Radar, Sonar & Navigation 2025
- [8] Hidden in Plain Sight: Evaluating Abstract Shape Recognition in Vision-Language Models. Arshia Hemmat, Adam Davies, Tom A. Lamb, Jianhao Yuan, Philip Torr, Ashkan Khakzar, Francesco Pinto. Neural Information Processing Systems (NeurIPS Dataset&Benchmark), 2024.
- [9] kNN-CLIP: Retrieval Enables Training-Free Segmentation on Continually Expanding Large Vocabularies. Zhongrui Gui, Shuyang Sun, Runjia Li, Jianhao Yuan, Zhaochong An, Karsten Roth, Ameeya Prabhu, Philip Torr. Transactions on Machine Learning Research (TMLR), 2023.
- [10] Off the Radar: Uncertainty-Aware Radar Place Recognition with Introspective Querying and Map Maintenance. Jianhao Yuan, Paul Newman, Matthew Gadd. International Conference on Intelligent Robots and Systems (IROS), 2023.
- [11] Efficient Multimodal Learning from Data-centric Perspective. MUYANG HE, YEXIN LIU, BOYA WU, Jianhao Yuan, YUEZE WANG, TIEJUN HUANG, BO ZHAO. arXiv preprint, 2024.
- [12] Synartifact: Classifying and alleviating artifacts in synthetic images via vision-language model. Bin Cao, Jianhao Yuan, Yexin Liu, Jian Li, Shuyang Sun, Jing Liu, Bo Zhao. arXiv preprint arXiv:2402.18068, 2024.

AWARDS & ACHIEVEMENTS

Distinction Scholarships: Awarded for academic excellence in 2020, 2021, and 2022.

Rokos Award: Granted for research internship from Rokos Capital Management and Pembroke College

ACADEMIC SERVICES

Journal Reviewer: IJCV, TMLR, RA-L

Conference Reviewer: ICLR, ECCV, RSS, CoRL, ICRA, IROS

TEACHING

B16 Machine Learning Lab Demonstrator, University of Oxford

SKILLS

Skills: Python, C++, MATLAB, ROS2, PyTorch