JUNLIN HAN

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Last Updated: October 1, 2025

EDUCATION

University of Oxford — 01.2024 – ongoing, Oxford, UK
PhD (DPhil) in Computer Vision
Supervised by Prof. Philip Torr

Australian National University — 02.2019 – 07.2023, Canberra, Australia
Bachelor of Information Technology (Honours)
GPA: 3.95/4.00 — First-Class Honours

EXPERIENCE

PhD Student Researcher — 10.2023 – ongoing, London, UK
GenAI Llama, Meta
Host: Dr. Filippos Kokkinos
Topics: LLM, MLLM, 3D&4D generation

Lead Research Scientist — 05.2023 – 09.2023, Remote
Cybever
Topic: Generative models for 3D world modeling

Research Intern — 12.2021 – 05.2023, Adelaide, Australia
AIML, University of Adelaide
Advisor: Prof. Ian Reid
Topics: Data-centric AI, memorability

Research Student — 08.2020 – 05.2023, Canberra, Australia
Data61-CSIRO & Australian National University
Advisors: Dr. Lars Petersson and Prof. Hongdong Li
Topics: Generative models, self-supervised learning

SELECTED PUBLICATIONS

See my webpage for full publications, codes, datasets, and project pages.

6. **Learning to See Before Seeing: Demystifying LLM Visual Priors from Language Pre-training**
Junlin Han, Shengbang Tong, David Fan, Yufan Ren, Koustuv Sinha, Philip Torr, Filippos Kokkinos
Preprint

5. **Flex3D: Feed-Forward 3D Generation with Flexible Reconstruction Model and Input View Curation**
Junlin Han, Jianyuan Wang, Andrea Vedaldi, Philip Torr, Filippos Kokkinos
International Conference on Machine Learning (ICML), 2025

4. **VFusion3D: Learning Scalable 3D Generative Models from Video Diffusion Models**
Junlin Han*, Filippos Kokkinos*, Philip Torr
European Conference on Computer Vision (ECCV), 2024

3. **What Images are More Memorable to Machines?**
Junlin Han, Huangying Zhan, Jie Hong, Pengfei Fang, Hongdong Li, Lars Petersson, Ian Reid
Preprint

2. **You Only Cut Once: Boosting Data Augmentation with a Single Cut**
Junlin Han, Pengfei Fang, Weihao Li, Jie Hong, Ali Armin, Ian Reid, Lars Petersson, Hongdong Li
International Conference on Machine Learning (ICML), 2022

1. **Blind Image Decomposition**
Junlin Han, Weihao Li, Pengfei Fang, Chunyi Sun, Jie Hong, Ali Armin, Lars Petersson, Hongdong Li
European Conference on Computer Vision (ECCV), 2022

Contributed Projects

- **The Llama4 herd: The beginning of a new era of natively multimodal AI innovation**
  - Created a large-scale (over 100K) internal 3D multi-image understanding dataset covering multiple key 3D understanding abilities like depth estimation, correspondence matching, and multi-view reasoning.
  - Designed a pipeline to label multiview raw data using 3D vision methods for precise annotation, which included an automated validation process.
  - Integrated the dataset into Llama4 training workflows with rejection sampling, boosting multi-view understanding performance by over 30% on key benchmarks.

Academic Services

- **Workshop Organization:** Foundation Models in the Wild (ICML 2024, ICLR 2025)
- **Conference Review:** CVPR (2022-2025), ICCV (2023, 2025), ECCV (2022, 2024), ICML (2022, 2024, 2025), NeurIPS (2022, 2023, 2025), ICLR (2023-2026), COLM (2025), SIGGRAPH Asia (2024, 2025), ACCV (2022), BMVC (2023), WACV (2024), AAAI (2023)
- **Journal Review:** TPAMI, IJCV, TIP

Awards

Meta PhD Scholarship	2023
for PhD research at University of Oxford	
Chancellor's Letter of Commendation	2022
for best academic performance at Australian National University	
Top Reviewer	2022
NeurIPS (Conference on Neural Information Processing Systems)	
Second Best Presentation Award	2021
AIM (Active Integrated Matter) Conference	
Top-up Scholarship	2021
for research work at Data61-CSIRO	
Undergraduate Vacation Scholarship	2020
for summer research at Data61-CSIRO	

Full Publications (* denotes equal contribution)

25. **Learning to See Before Seeing: Demystifying LLM Visual Priors from Language Pre-training**
    Junlin Han, Shengbang Tong, David Fan, Yufan Ren, Koustuv Sinha, Philip Torr, Filippos Kokkinos
    Preprint

24. **Unsupervised Decomposition of 3D Shapes into Expressive and Editable Extruded Profile Primitives**
    Chunyi Sun, **Junlin Han**, Runjia Li, Wejian Deng, Dylan Campbell, Stephen Gould
    ACM SIGGRAPH, 2025

23. **Flex3D: Feed-Forward 3D Generation With Flexible Reconstruction Model And Input View Curation**
    Junlin Han, Jianyuan Wang, Andrea Vedaldi, Philip Torr, Filippos Kokkinos
    International Conference on Machine Learning (ICML), 2025

22. **Hallucination at a Glance: Controlled Visual Edits and Fine-Grained Multimodal Learning**
    Tianyi Bai, Yuxuan Fan, Jiantao Qiu, Fupeng Sun, Jiayi Song, **Junlin Han**, Zichen Liu, Conghui He, Wentao Zhang, Binhang Yuan
    NeurIPS, 2025

21. **AuralSAM2: Enabling SAM2 Hear Through Pyramid Audio-Visual Feature Prompting**
    Yuyuan Liu, Yuanhong Chen, Chong Wang, **Junlin Han**, Junde Wu, Can Peng, Jingkun Chen, Yu Tian, Gustavo Carneiro
    Preprint

20. **VGRP-Bench: Visual Grid Reasoning Puzzle Benchmark for Large Vision-Language Models**
    Yufan Ren, Konstantinos Tertikas, Shalini Maiti, **Junlin Han**, Tong Zhang, Sabine Süsstrunk, Filippos Kokkinos
    Preprint

19. **Generalized Few-shot 3D Point Cloud Segmentation with Vision-Language Model**
    Zhaochong An, Guolei Sun, Yun Liu, Runjia Li, **Junlin Han**, Ender Konukoglu, Serge Belongie
    Conference on Computer Vision and Pattern Recognition (CVPR), 2025

18. **DreamBeast: Distilling 3D Fantastical Animals with Part-Aware Knowledge Transfer**
Runjia Li, **Junlin Han**, Luke Melas-Kyriazi, Chunyi Sun, Zhaochong An, Zhongrui Gui, Shuyang Sun, Philip Torr, Tomas Jakab
International Conference on 3D Vision (3DV), 2025

17. **3D-GPT: Procedural 3D Modeling with Large Language Models**
Chunyi Sun*, **Junlin Han***, Weijian Deng, Xinlong Wang, Zishan Qin, Stephen Gould
International Conference on 3D Vision (3DV), 2025

16. **Semantic Score Distillation Sampling for Compositional Text-to-3D Generation**
Ling Yang, Zixiang Zhang, **Junlin Han**, Bohan Zeng, Runjia Li, Philip Torr, Wentao Zhang
Preprint

15. **Learning-based Multi-View Stereo: A Survey**
Fangjinhua Wang, Qingtian Zhu, Di Chang, Quankai Gao, **Junlin Han**, Tong Zhang, Richard Hartley, Marc Pollefeys
Preprint

14. **VFusion3D: Learning Scalable 3D Generative Models from Video Diffusion Models**
Junlin Han*, Filippos Kokkinos*, Philip Torr
European Conference on Computer Vision (ECCV), 2024

13. **Strong and Controllable Blind Image Decomposition**
Zeyu Zhang*, **Junlin Han***, Chenhui Gou*, Hongdong Li, Liang Zheng
Preprint

12. **How Many Unicorns Are in This Image? A Safety Evaluation Benchmark for Vision LLMs**
Haoqin Tu*, Chenhang Cui*, Zijun Wang*, Yiyang Zhou, Bingchen Zhao, **Junlin Han**, Wangchunshu Zhou, Huaxiu Yao, Cihang Xie
European Conference on Computer Vision (ECCV), 2024

11. **NeRFEditor: Differentiable Style Decomposition for 3D Scene Editing**
Chunyi Sun, Yanbin Liu, **Junlin Han**, Stephen Gould
Winter Conference on Applications of Computer Vision (WACV), 2024

10. **Hyperbolic Audio-visual Zero-shot Learning**
Jie Hong, Zeeshan Hayder, **Junlin Han**, Pengfei Fang, Mehrtash Harandi, Lars Petersson
International Conference on Computer Vision (ICCV), 2023

9. **Curved Geometric Networks for Visual Anomaly Recognition**
Jie Hong, Pengfei Fang, Weihao Li, **Junlin Han**, Lars Petersson, Mehrtash Harandi
IEEE Transactions on Neural Networks and Learning Systems (TNNLS), 2023

8. **What Images are More Memorable to Machines?**
Junlin Han, Huangying Zhan, Jie Hong, Pengfei Fang, Hongdong Li, Lars Petersson, Ian Reid
Preprint

7. **GOSS: Towards Generalized Open-set Semantic Segmentation**
Jie Hong, Weihao Li, **Junlin Han**, Jiyang Zheng, Pengfei Fang, Mehrtash Harandi, Lars Petersson
The Visual Computer, 2023

6. **CropMix: Sampling a Rich Input Distribution via Multi-Scale Cropping**
Junlin Han, Lars Petersson, Hongdong Li, Ian Reid
Preprint

5. **You Only Cut Once: Boosting Data Augmentation with a Single Cut**
Junlin Han, Pengfei Fang, Weihao Li, Jie Hong, Ali Armin, Ian Reid, Lars Petersson, Hongdong Li
International Conference on Machine Learning (ICML), 2022

4. **Blind Image Decomposition**
Junlin Han, Weihao Li, Pengfei Fang, Chunyi Sun, Jie Hong, Ali Armin, Lars Petersson, Hongdong Li
European Conference on Computer Vision (ECCV), 2022

3. **Underwater Image Restoration via Contrastive Learning and a Real-world Dataset**
Junlin Han, Mehrdad Shoeiby, Tim Malthus, Elizabeth Botha, Janet Anstee, Saeed Anwar, Ran Wei, Ali Armin, Hongdong Li, Lars Petersson
Remote Sensing (Best paper award), 2022

2. **Single Underwater Image Restoration by Contrastive Learning**
   Junlin Han, Mehrdad Shoeiby, Tim Malthus, Elizabeth Botha, Janet Anstee, Saeed Anwar, Ran Wei, Lars Petersson, Ali Armin
   IEEE International Geoscience and Remote Sensing Symposium (oral), 2021

1. **Dual Contrastive Learning for Unsupervised Image-to-Image Translation**
   Junlin Han, Mehrdad Shoeiby, Lars Petersson, Ali Armin
   CVPR NTIRE Workshops (oral), 2021