Junlin Han

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Last Updated: May 1, 2025

Education

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

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

Research Interests

My research focus on computer vision, deep learning, and artificial intelligence, with a particular concentration on studying data. This entails exploring:
(1) **Generation** and **manipulation** of 2D, 3D, and 4D visual data,
(2) Use **augmented, synthetic, and distilled** data for training AI systems,
(3) Understand the **role of data** in AI.

Experience

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

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

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

Selected Publications (as leading author)

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

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

Academic Services

Workshop organization: Foundation Models in the Wild, ICML 2024, ICLR 2025
Conference review: CVPR 2022 2023 2024 2025, ICCV 2023 2025, ECCV 2022 2024, ICML 2022 2024 2025, NeurIPS 2022 2023 2025, ICLR 2023 2024 2025, COLM 2025, SIGGRAPH Asia 2024, ACCV 2022, BMVC 2023, WACV 2024, AAAI 2023
Journal review: Transactions on Pattern Analysis and Machine Intelligence (TPAMI), International Journal of Computer Vision (IJCV), Transactions on Image Processing (TIP), Transactions on Geoscience and Remote Sensing (TGRS)

Technical Skills

Programming Languages: Proficient in Python, MATLAB
Familiar with Java, SQL, HTML/CSS, R, Haskell, Assembly (ARMV7)
Developer Tools: Git, Latex, VS Code, Visual Studio, PyCharm, IntelliJ, Jupyter Notebook
Libraries: PyTorch, NumPy

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

22. 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 Special Interest Group on Computer Graphics and Interactive Techniques (SIGGRAPH), 2025

21. 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

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

    IEEE/CVF 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, 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 (IGARSS, oral), 2021

1. Dual Contrastive Learning for Unsupervised Image-to-Image Translation

   Junlin Han, Mehrdad Shoeiby, Lars Petersson, Ali Armin

   New Trends in Image Restoration and Enhancement workshop (NTIRE), IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPRW, oral), 2021