

Junlin Han

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Last Updated: March 19, 2024

EDUCATION

University of Oxford PhD (Dphil) in Computer Vision Supervised by Prof. Philip Torr	01.2024 – ongoing Oxford, UK
Australian National University Bachelor of Information Technology (Honours) GPA: 3.95/4.00	02.2019 – 07.2023 Canberra, Australia 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 machine learning systems,
- (3) Understand the **role of data** through cognitive perspectives.

I am also interested in extending my research to other scientific domains, such as exploring the applications of AI in the field of health and biology.

EXPERIENCE

PhD Student Researcher Facebook AI Research (FAIR), Meta Host: Dr. Filippos Kokkinos Topics: 3D&4D generation	10.2023 – ongoing London, UK
Research Intern AIML, University of Adelaide Advisor: Prof. Ian Reid Topics: Data-centric AI, memorability	12.2021 – 05.2023 Adelaide, Australia
Research Student Data61-CSIRO & Australian National University Advisors: Dr. Lars Petersson and Prof. Hongdong Li Topics: Generative models, self-supervised learning	08.2020 – 05.2023 Canberra, Australia

SELECTED PUBLICATIONS (AS LEADING AUTHOR)

See my [webpage](#) for full publications, codes, datasets, and project pages, etc.

4. VFusion3D: Learning Scalable 3D Generative Models from Video Diffusion Models
Junlin Han*, Filippos Kokkinos*, Philip Torr
Preprint arXiv:2403.12034
3. What Images are More Memorable to Machines?
Junlin Han, Huangying Zhan, Jie Hong, Pengfei Fang, Hongdong Li, Lars Petersson, Ian Reid
Preprint arXiv:2211.07625
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

PROFESSIONAL ACTIVITIES

Conference review: CVPR 2022 2023 2024, NeurIPS 2022 2023, ICML 2022 2024, ECCV 2022 2024, ICLR 2023 2024, ICCV 2023, ACCV 2022, AAAI 2023, BMVC 2023, WACV 2024
Journal review: Transactions on Image Processing (TIP), Transactions on Geoscience and Remote Sensing (TGRS), Pattern Recognition, Neurocomputing, Journal of Oceanic Engineering (JOE)

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 <i>for PhD research at University of Oxford</i>	2023
Top Reviewer <i>NeurIPS (Conference on Neural Information Processing Systems)</i>	2022
Second Best Presentation Award <i>AIM (Active Integrated Matter) Conference</i>	2021
Top-up Scholarship <i>for research work at Data61-CSIRO</i>	2021
Undergraduate Vacation Scholarship <i>for summer research at Data61-CSIRO</i>	2020

FULL PUBLICATIONS

15. VFusion3D: Learning Scalable 3D Generative Models from Video Diffusion Models
Junlin Han*, Filippos Kokkinos*, Philip Torr
Preprint arXiv:2403.12034
14. Strong and Controllable Blind Image Decomposition
Zeyu Zhang*, **Junlin Han***, Chenhui Gou*, Hongdong Li, Liang Zheng
Preprint arXiv:2403.10520
13. 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
Preprint arXiv:2311.16101
12. 3D-GPT: Procedural 3D Modeling with Large Language Models
Chunyi Sun*, **Junlin Han***, Weijian Deng, Xinlong Wang, Zishan Qin, Stephen Gould
Preprint arXiv:2310.12945
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 arXiv:2211.07625
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 arXiv:2205.15955
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