

Junlin Han

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EDUCATION

Australian National University

Bachelor of Information Technology (Honours)

GPA: 3.95/4.00 (WES converted)

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 *achieving human-like machine intelligence through 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

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

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

What Images are More Memorable to Machines?

Junlin Han, Huangying Zhan, Jie Hong, Pengfei Fang, Hongdong Li, Lars Petersson, Ian Reid

Submitted to TPAMI

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

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, NeurIPS 2022 2023, ICML 2022, ECCV 2022, ICLR 2023, ICCV 2023, ACCV 2022, AAAI 2023, BMVC 2023

Journal review: Transactions on Image Processing (TIP), Transactions on Geoscience and Remote Sensing (TGRS), Pattern Recognition, Neurocomputing, Journal of Oceanic Engineering (JOE)

Workshop review: NTIRE (CVPRW) 2021

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

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

12. What Images are More Memorable to Machines?
Junlin Han, Huangying Zhan, Jie Hong, Pengfei Fang, Hongdong Li, Lars Petersson, Ian Reid
Submitted to TPAMI
11. CropMix: Sampling a Rich Input Distribution via Multi-Scale Cropping
Junlin Han, Lars Petersson, Hongdong Li, Ian Reid
Preprint arXiv:2205.15955
10. 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
9. 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
8. 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
7. 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
6. 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
5. SFD: Structure from Deformable Neural Point Field
Chunyi Sun, Huangying Zhan, **Junlin Han**, Stephen Gould
Under review
4. 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
3. NeRFEditor: Differentiable Style Decomposition for Full 3D Scene Editing
Chunyi Sun, Yanbin Liu, **Junlin Han**, Stephen Gould
Preprint arXiv:2212.03848

2. 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

1. 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

REFERENCES

Prof. Ian Reid

Professor, FAA FTSE

Email: ian.reid@adelaide.edu.au

University of Adelaide

Prof. Hongdong Li

Professor

Email: hongdong.li@anu.edu.au

Australian National University

Dr. Lars Petersson

Group Leader and Senior Principal Research Scientist

Email: lars.petersson@data61.csiro.au

Data61-CSIRO