Junlin Han

webpage: https://junlinhan.github.io/ | email: junlinhcv@gmail.com | google scholar

EDUCATION

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

RESEARCH INTERESTS

My research focus on computer vision, deep learning, and artificial intelligence, with a particular concentration on ***achieving human-like 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

Technical Consultant	05.2023 – ongoing
Cybever & TauLab	Mountain View, USA
Generative models for 3D assets creation	
Technical Staff	06.2023 – ongoing
BAAI (Beijing Academy of Artificial Intelligence)	Beijing, China
Topics: foundation models, multi-modality	
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

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 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

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

   Preprint arXiv:2208.01188

REFERENCES

Prof. Ian Reid
Professor, FAA FTSE   University of Adelaide
Email: ian.reid@adelaide.edu.au

Prof. Hongdong Li
Professor   Australian National University
Email: hongdong.li@anu.edu.au

Dr. Lars Petersson
Group Leader and Senior Principal Research Scientist   Data61-CSIRO
Email: lars.petersson@data61.csiro.au