Yahui Liu

https://yhlleo.github.io/
Google Scholar Profile

RESEARCH INTERESTS

I am a PhD student in Multimedia and Human Understanding Group (MHUG) at the Department of Information Engineering and Computer Science of the University of Trento, Italy, supervised by Prof. Nicu Sebe and Dr. Bruno Lepri. Before that, I received B.Eng. degree in Photogrammetry and Remote Sensing and M.Eng. degree in Pattern Recognition and Intelligent System from Wuhan University in 2015 and 2018, respectively, under the supervision of Prof. Jian Yao. My research interests lie in the areas of *computer vision* and *natural language processing*. Recently, I'm working on **unsupervised learning** and **image domain translation**.

EDUCATION

- **University of Trento** — Trento, Italy
  Ph.D. student, Advisors: Prof. Nicu Sebe and Dr. Bruno Lepri — Nov. 2018 - Jun 2022(**expected**)
- **Wuhan University** — Wuhan, China
  M.S. in Pattern Recognition and Intelligent System, Advisor: Prof. Jian Yao — Sep. 2015 - Mar. 2018
- **Wuhan University** — Wuhan, China
  B.E. in Remote Sensing Science and Technology — Sep. 2011 - Jun. 2015

RESEARCH EXPERIENCE

- **Research intern, Tencent AI Lab** — Shenzhen, China
  with Linchao Bao and Wei Bi — 2021
- **Research intern, Tencent AI Lab** — Shenzhen, China
  with Wei Bi, Xiaojiang Liu, and Shuming Shi — Nov. 2017 - Aug. 2018

PROFESSIONAL SERVICE

Program comittee member

- ACM International Conference on Multimedia (ACM MM) — 2020, 2021
- IEEE/CVF International Conference on Computer Vision (ICCV) — 2021
- IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) — 2021, 2022
- International Joint Conference on Artificial Intelligence (IJCAI) — 2021, 2022
- ACM International Conference on Multimedia Asia — 2021

Journal reviewer

- IEEE Transactions on Industrial Informatics (TII)
- IEEE Geoscience and Remote Sensing Letters (GRSL)
- IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS)
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS)

PUBLICATIONS

*: equal contribution

Peer-refereed publications

Conference papers

1. **Yahui Liu**, Enver Sangineto, Yajing Chen, Linchao Bao, Haoxian Zhang, Nicu Sebe, Bruno Lepri, Wei Wang, Marco De Nadai. Smoothing the Disentangled Latent Style Space for Unsupervised Image-to-Image Translation. Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, 2021. **CVPR 2021**

2. Jiannan Xiang*, **Yahui Liu***, Deng Cai, Huayang Li, Defu Lian and Lemao Liu. Assessing Dialogue Systems with Distribution Distances. In Findings of the Association for Computational Linguistics, 2021. **ACL 2021**

3. Pierfrancesco Ardino, **Yahui Liu**, Elisa Ricci, Bruno Lepri, Marco De Nadai. Semantic-Guided Inpainting Network for Complex Urban Scenes Manipulation. In Proceedings of the International Conference on Pattern Recognition, 2020. **ICPR 2020**

4. **Yahui Liu**, Marco De Nadai, Deng Cai, Huayang Li, Xavier Alameda-Pineda, Nicu Sebe, and Bruno Lepri. Describe What to Change: A Text-guided Unsupervised Image-to-Image Translation Approach. In Proceedings of ACM International Conference on Multimedia, 2020. **ACM MM 2020**

5. Raul Gomez*, **Yahui Liu***, Marco De Nadai, Dimosthenis Karatzas, Nicu Sebe, and Bruno Lepri. Retrieval Guided Unsupervised Multi-domain Image-to-Image Translation. In Proceedings of ACM International Conference on Multimedia, 2020. **ACM MM 2020**

6. **Yahui Liu**, Marco De Nadai, Gloria Zen, Nicu Sebe, and Bruno Lepri. Gesture-to-Gesture Translation in the Wild via Category-Independent Conditional Maps. In Proceedings of ACM International Conference on Multimedia, 2019. **ACM MM 2019**

7. **Yahui Liu**, Victoria Bi, Jun Gao, Xiaojiang Liu, Jian Yao, and Shuming Shi, Towards Less Generic Responses in Neural Conversation Models: A Statistical Re-weighting Method. In Proceedings of the Conference on Empirical Methods in Natural Language Processing, 2018. **EMNLP 2018**

8. Xiaohu Lu, Jian Yao, Haoang Li, **Yahui Liu**. 2-Line Exhaustive Searching for Real-Time Vanishing Point Estimation in Manhattan World.. In Proceedings of IEEE Winter Conference on Applications of Computer Vision, 2017. **WACV 2017**

9. Xiaohu Lu, Jian Yao, Li Li, **Yahui Liu**, and Wei Zhang. Edge Chain Detection by Applying Helmholtz Principle on Gradient Magnitude Map. In Proceedings of the International Conference on Pattern Recognition, 2016. **ICPR 2016**

Journal papers

10. Jing Han, Jian Yao, Jiao Zhao, Jingmin Tu, and **Yahui Liu**. Multi-Oriented and Scale-Invariant License Plate Detection Based on Convolutional Neural Networks. **Sensors** (IF: 3.03), 2019.

11. **Yahui Liu**, Jian Yao, Rengping Xie, and Li Li. DeepCrack: A Deep Hierarchical Feature Learning Architecture for Crack Segmentation. **Neurocomputing** (IF: 4.07), 2019.

12. **Yahui Liu**, Jian Yao, Xiaohu Lu, Menghan Xia, Xingbo Wang, and Yuan Liu. RoadNet: Learning to Comprehensively Analyze Road Networks in Complex Urban Scenes From High-Resolution Remotely Sensed Images. IEEE Transactions on Geoscience and Remote Sensing (**TGRS**) (IF: 5.63), 2019.

13. Renping Xie, Jian Yao, Kang Liu, Xiaohu Lu, **Yahui Liu**, Menghan Xia, and Qifei Zeng. [Automatic Multi-image Stitching for Concrete Bridge Inspection by Combining Point and Line Features](#). **Automation in Construction** (IF: 4.31), 2018.

14. Li Li, Jian Yao, **Yahui Liu**, Wei Yuan, Shuzhu Shi, and Shenggu Yuan. [Optimal Seamline Detection for Orthoimage Mosaicking by Combining Deep Convolutional Neural Network and Graph Cuts](#). **Remote Sensing** (IF: 4.12), 2017.

Preprints & Technical reports

15. **Yahui Liu**, Enver Sangineto, Wei Bi, Nicu Sebe, Bruno Lepri, Marco De Nadai. [Efficient Training of Visual Transformers with Small-Size Datasets](#), arXiv:2106.03746 2021.

16. Lei Ding, Hao Tang, **Yahui Liu**, Yilei Shi, Xiao Xiang Zhu, Lorenzo Bruzzone. [Adversarial Shape Learning for Building Extraction in VHR Remote Sensing Images](#), arXiv:2102.11262 2021.

17. Kai Chen, Jian Yao, Jingmin Tu, **Yahui Liu**, Yinxuan Li, Li Li. [Vanishing Point Guided Natural Image Stitching](#), arXiv:2004.02478 2020.

18. **Yahui Liu**, Marco De Nadai, Jian Yao, Nicu Sebe, Bruno Lepri, Xavier Alameda-Pineda. [GMM-UNIT: Unsupervised Multi-Domain and Multi-Modal Image-to-Image Translation via Attribute Gaussian Mixture Modeling](#), arXiv:2003.06788 2020.

Awards & Honors

- Scholarship of the University of Trento, Italy, 2018

- Excellent Graduate Freshman Scholarship of Wuhan University, China, 2015

- Outstanding Undergraduate Thesis, Hubei Province, China, 2015 (top 4%)

- Excellent Undergraduate Students, Wuhan University, China, 2012-2014

Skills

- C/C++, Python, LaTeX, MatLab

- PyTorch, TensorFlow

- English, Mandarin