

Meng, Yunlong

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EDUCATION

The Chinese University of Hong Kong

PhD in Mechanical and Automation Engineering

2014 ~ 2019

Huazhong University of Science and Technology

Master in Biomedical Engineering

2011 ~ 2014

Huazhong University of Science and Technology

Bachelor in Biomedical Engineering

2007 ~ 2011

RESEARCH INTERESTS

Computer Vision and Image Processing

- Image Generation/Translation
- Medical Image Analysis

Optics

- Computational Imaging/Photography
- Structured light illumination

WORKING EXPERIENCE

Senior Algorithm Engineer

Em-Data Technology

March 2023 ~ Present

Shanghai

Research Scientist

Em-Data Technology

January 2022 ~ December 2022

Shanghai

Researcher

Em-Data Technology

May 2019 ~ December 2021

Shanghai

PROJECTS

Automatic Labeling of Road Images

- Road images labeling criterion construction

November 2023 ~ February 2024

Semantic segmentation and object detection on fisheye images

- Semantic segmentation and objects detection for fisheye images based on surround view system

May 2023 ~ October 2023

Cross domain object detection and instance segmentation

- Few-shot unsupervised image-to-image translation for few-shot cross-domain object detection and instance segmentation
- Multimodal image-to-image translation for cross domain object detection
- Patch pyramid dual contrastive learning image-to-image translation for cross domain object detection

July 2020 ~ June 2022

Cross domain object detection and instance segmentation

- Few-shot unsupervised image-to-image translation for few-shot cross-domain object detection and instance segmentation
- Multimodal image-to-image translation for cross domain object detection
- Patch pyramid dual contrastive learning image-to-image translation for cross domain object detection

June 2020 ~ December 2022

Generative adversarial networks and image-to-image translation

- Multimodal image-to-image translation
- Few-shot unsupervised image-to-image translation

January 2020 ~ December 2022

Super-resolution structured illumination

June 2016 ~ December 2018

- Super-resolution structured illumination with reduced raw structured images

Temporal focusing microscopy

October 2014 ~ December 2018

- Fast two-snapshot structured illumination for temporal focusing microscopy with enhanced axial resolution and signal-to-noise ratio

Cell detection and segmentation

December 2011 ~ May 2014

- Automatic cell detection and segmentation
- Concave points clustering and random walker based cell detection and segmentation

PUBLICATIONS

Journal Publications

- Chen, Jialong, Songyun Gu, **Yunlong Meng**, Zhiqiang Fu, and Shih-Chi Chen. "*Holography-based structured light illumination for temporal focusing microscopy.*" Optics Letters 46, no. 13 (2021): 3143-3146.
- Lin, Wei, Dongping Wang, **Yunlong Meng**, and Shih-Chi Chen. "*Multi-focus microscope with HiLo algorithm for fast 3-D fluorescent imaging.*" Plos one 14, no. 9 (2019): e0222729.
- **Yunlong Meng**, Wei Lin, Chenglin Li, and Shih-chi Chen. "*Fast two-snapshot structured illumination for temporal focusing microscopy with enhanced axial resolution.*" Optics Express 25, no. 19 (2017): 23109-23121.
- Dongping Wang, **Yunlong Meng**, Dihan Chen, Yeung Yam, and Shih-Chi Chen. "*High-speed 3D imaging based on structured illumination and electrically tunable lens.*" Chinese Optics Letters 15, no. 9 (2017): 090004. (Invited paper)
- Yong He⁺, **Yunlong Meng**⁺, Hui Gong, Shangbin Chen, Bin Zhang, Wenxiang Ding, Qingming Luo, and Anan Li. "*An automated three-dimensional detection and segmentation method for touching cells by integrating concave points clustering and random walker algorithm.*" PLoS One 9, no. 8 (2014): e104437. (+Co-first author)
- Wenxiang Ding, Anan Li, Jingpeng Wu, Zhongqing Yang, **Yunlong Meng**, Simin Wang, and Hui Gong. "*Automatic macroscopic density artefact removal in a Nissl-stained microscopic atlas of whole mouse brain.*" Journal of Microscopy 251, no. 2 (2013): 168-177.

Conference publications

- **Yunlong Meng**⁺, Lifan Zhao⁺, and Lin Xu. "*Unsupervise Image-to-Image translation with Patch Pyramid Dual Contrastive Learning for Cross Domain Detection.*" ICME 2022 (+Co-first author)
- Lifan Zhao⁺, **Yunlong Meng**⁺, and Lin Xu. "*OA-FSUI2IT: A Novel Few-Shot Cross Domain Object Detection Framework with Object-Aware Few-Shot Unsupervised Image-to-Image Translation.*" AAAI 2022 (+Co-first author)
- **Yunlong Meng**, Fengliang Qi, Heng Zuo, Bo Chen, Xian Yuan, and Yao Xiao. "*Multi-step LSTM prediction model for visibility prediction.*" IJCNN 2020
- **Yunlong Meng**, Wei Lin, Jialong Chen, Chenglin Li, and Shih-Chi Chen. "*Fast Two-snapshot Structured Illumination for Wide-field Two-photon Microscopy with Enhanced Axial Resolution and Signal-to-noise Ratio.*" CLEO 2019
- **Yunlong Meng**, Yong He, Jingpeng Wu, Shangbin Chen, Anan Li, and Hui Gong. "*Automatic detection and quantitative analysis of cells in the mouse primary motor cortex.*" PIBM 2014

LANGUAGE SKILLS

Mandarin Chinese: Native speaker

English: Good