

Yiming Yang

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The Chinese University of Hong Kong, Shenzhen

[Google Scholar](#) [Homepage](#)

Education and Research Visit

Nanyang Technological University, Singapore Incoming Visiting Ph.D. Student, AutoMan Lab Host advisor: Prof. Chen Lv (Lyu Chen) Supported by the China Scholarship Council (CSC); awarded May 2026	Oct 2026 – Oct 2027 (planned)
The Chinese University of Hong Kong, Shenzhen Ph.D. Candidate in Computer and Information Engineering Advisor: Prof. Zhen Li and Prof. Shuguang Cui Full Scholarship; passed the qualifying examination (QE) in July 2026	Aug 2024 – Present
Sun Yat-sen University M.S. in Electronics and Communication Engineering Ranked 1st in the comprehensive evaluation Advisor: Prof. Haifeng Hu	Aug 2021 – Jun 2024
Northwest A&F University B.E. in Electronics and Information Engineering GPA: 3.85/4.00 (Top 2.94%)	Aug 2017 – Jun 2021

Research Interests

Autonomous Driving, Lane Topology Reasoning, World Models, Cross-Modal Person Re-Identification, and Face Recognition

Publications

- [1] Yueru Luo, Changqing Zhou, **Yiming Yang**, Erlong Li, Chao Zheng, Shuguang Cui, Zhen Li.
Geometry-Guided Representations for Coherent Lane and Traffic Topology Reasoning in Driving Scenes
ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2026.
- [2] **Yiming Yang**, Yueru Luo, Bingkun He, Erlong Li, Zhipeng Cao, Chao Zheng, Shuqi Mei, Zhen Li.
Topo2Seq: Enhanced Topology Reasoning via Topology Sequence Learning
AAAI Conference on Artificial Intelligence (**AAAI Oral**), 2025.
- [3] **Yiming Yang**, Weipeng Hu, Haifeng Hu.
Dynamic Modality-Camera Invariant Clustering for Unsupervised Visible-Infrared Person Re-Identification
IEEE Transactions on Neural Networks and Learning Systems (**T-NNLS**), 2025.
- [4] **Yiming Yang**, Weipeng Hu, Haifeng Hu.
Progressive Cross-Modal Association Learning for Unsupervised Visible-Infrared Person Re-Identification
IEEE Transactions on Information Forensics and Security (**T-IFS**), 2025.
- [5] **Yiming Yang**, Weipeng Hu, Haifeng Hu.
Unsupervised NIR-VIS Face Recognition via Homogeneous-to-Heterogeneous Learning and Residual-invariant Enhancement
IEEE Transactions on Information Forensics and Security (**T-IFS**), 2023.
- [6] **Yiming Yang**, Weipeng Hu, Haiqi Lin, Haifeng Hu.
Robust Cross-domain Pseudo-labeling and Contrastive Learning for Unsupervised Domain Adaptation NIR-VIS Face Recognition
IEEE Transactions on Image Processing (**T-IP**), 2023.

- [7] **Yiming Yang**, Weipeng Hu, Haifeng Hu.
Syncretic Space Learning Network for NIR-VIS Face Recognition
ACM Transactions on Multimedia Computing, Communications, and Applications (**T-OMM**), 2023.
- [8] **Yiming Yang**, Weipeng Hu, Haifeng Hu.
Neutral Face Learning and Progressive Fusion Synthesis Network for NIR-VIS Face Recognition
IEEE Transactions on Circuits and Systems for Video Technology (**TCSVT**), 2023.
- [9] Hongbin Lin, **Yiming Yang**, Chaoda Zheng, Yifan Zhang, Shuangcheng Niu, Zilu Guo, Yafeng Li, Gui Gui, Shuguang Cui, Zhen Li.
DriveFlow: Rectified Flow Adaptation for Robust 3D Object Detection in Autonomous Driving
AAAI Conference on Artificial Intelligence (**AAAI**), 2026.
- [10] Qiaolin He, **Yiming Yang**, Zihan Wang, Haifeng Hu.
Part-based Bi-directional Enhancement Learning for Unsupervised Visible-Infrared Re-identification
IEEE Transactions on Information Forensics and Security (**T-IFS**), 2025.
- [11] Jiakai He, **Yiming Yang**, Ruixing Wu, Haifeng Hu.
Unsupervised Visible-Infrared Person ReID via Modality-Camera Balance Label Refinement
ACM Transactions on Multimedia Computing, Communications, and Applications (**T-OMM**), 2025.
- [12] Ruixing Wu, **Yiming Yang**, Jiakai He, Haifeng Hu.
Extended Cross-Modality United Learning for Unsupervised Visible-Infrared Person Re-identification
IEEE Signal Processing Letters (**SPL**), 2025.
- [13] Suzhong Fu, Rui Sun, Xuan Ding, Jingqi Dong, **Yiming Yang**, Yao Zhu, Min Chang Jordan Ren, Delin Deng, Angelica Aviles-Rivero, Shuguang Cui, Zhen Li.
VesSAM: Efficient Multi-Prompting for Segmenting Complex Vessel
International Conference on Bioinformatics and Biomedicine (**BIBM**), 2025.
- [14] Weipeng Hu, Jiun Tian Hoe, Runzhong Zhang, **Yiming Yang**, Haifeng Hu, Yap-Peng Tan.
Motion-guided token prioritization and semantic degradation fusion for exo-to-ego cross-view video generation
Information Fusion, 2025.
- [15] Weipeng Hu, **Yiming Yang**, Haifeng Hu.
Pseudo Label Association and Prototype-based Invariant Learning for Semi-Supervised NIR-VIS Face Recognition
IEEE Transactions on Image Processing (**T-IP**), 2024.

Manuscripts Under Review

- [16] Yihuan Yao*, **Yiming Yang***, Hongbin Lin, Chuang Yang, Chao Zhan, Suzhong Fu, Chao Zheng, Chen Lv, Shuguang Cui, Zhen Li.
TopoMind: Unifying Lane Topology Reasoning and Understanding on Driving Scenes
Under Review. *Equal contribution.
- [17] **Yiming Yang**, Chao Zhan, Yihuan Yao, Hongbin Lin, Yueru Luo, Wan lihui, Suzhong Fu, Chao Zheng, Chen Lv, Shuguang Cui, Zhen Li.
TopoVLM: Unveiling the Power of Vision-Language Models in Lane Topology Reasoning
Under Review.
- [18] **Yiming Yang**, Hongbin Lin, Yueru Luo, Suzhong Fu, Chao Zheng, Xinrui Yan, Shuqi Mei, Kun Tang, Chen Lyu, Shuguang Cui, Zhen Li.
DualTopo: Spatio-Temporal Lane Segment Graph Generation with Dual Latent World Models and Parallel Query Supervision
Under Review.
- [19] **Yiming Yang**, Yueru Luo, Bingkun He, Hongbin Lin, Suzhong Fu, Chao Zheng, Zhipeng Cao, Erlong Li, Chao Yan, Chen Lyu, Shuguang Cui, Zhen Li.
TopoX: Spatio-Temporal Lane Graph Generation via Iterative Positional Embedding and Denoising
Under Review.

- [20] Suzhong Fu, Yizhou Yang, Jing Wang, Jingqi Dong, Xuan Ding, **Yiming Yang**, Shuguang Cui, Zhen Li.
CLSim: Lesion-Centric Coronary Stenosis Editing with Geometry Coupled Supervision
Under Review.
- [21] Chao Zhan, **Yiming Yang**, Chao Yan, Bin Wang, Chao Zheng, Shuguang Cui, Zhen Li.
MapDLM: Geometry-Grounded Block-Diffusion Vision-Language Models for Lane Topology Generation
Under Review.
- [22] Chao Zhan, **Yiming Yang**, Chao Yan, Chao Zheng, Shuguang Cui, Zhen Li.
LaneSpatial: Benchmarking VLM Spatial Understanding of BEV Road-Map Structure
Under Review.

Honors and Awards

- China Scholarship Council (CSC) Scholarship for Overseas Study (May 2026)
- National Scholarship (2018, 2020, 2023)
- Postgraduate Student Scholarship (2021, 2022, 2023)
- First Prize Scholarship (2018, 2019, 2020)
- Outstanding Master's Graduate & Excellent Master's Thesis, SYSU (2024)
- Outstanding Undergraduate Thesis, NWAUFU (2021)

Teaching Experience

- Teaching Assistant, CIE6020: Information Theory, CUHK-Shenzhen (Fall 2025)
- Teaching Assistant, CIE6032: Selected Topics in Deep Learning Foundations and Their Applications, CUHK-Shenzhen (Summer 2026)

Academic Services

Workshop Organizer

- Organizer, *Robust and Generalized Lane Topology Understanding and HD Map Generation through CoT Design (TopoCoT)*,
Workshop at IEEE Winter Conference on Applications of Computer Vision (**WACV**), 2026
Proposal authors: **Yiming Yang**, Chao Zheng, Hongyang Li, Zhen Li.
[Website](#)

Journal Reviewer

- IEEE Transactions on Neural Networks and Learning Systems
- IEEE Transactions on Information Forensics and Security
- IEEE Transactions on Circuits and Systems for Video Technology
- Pattern Recognition
- Engineering Applications of Artificial Intelligence
- Digital Signal Processing

Conference Reviewer

- AAAI Conference on Artificial Intelligence (AAAI 2025–2027)
- Conference on Neural Information Processing Systems (NeurIPS 2025, 2026)
- International Conference on Computer Vision (ICCV 2025)
- European Conference on Computer Vision (ECCV 2026)
- International Conference on Learning Representations (ICLR 2026, 2027)
- Conference on Computer Vision and Pattern Recognition (CVPR 2026)
- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2026)

Skills

- **Programming:** Python, MATLAB, PyTorch, TensorFlow, OpenCV, Linux, LaTeX
- **Language:** English (IELTS 7.0, CET-6)