

Guangyi Chen

☎ +971 529644166 • ✉ guangyichen1994@gmail.com
🌐 chengy12.github.io • 📄 Google Scholar

Education

Department of Automation, Tsinghua University PhD student in Computer Vision Advisor: Prof. Jie Zhou Assistant Advisor: Prof. Jiwen Lu	Beijing, China 2016-2021
Department of Automation, Tsinghua University B.E. in Automation	Beijing, China 2012-2016

Academic Positions

Mohamed bin Zayed University of Artificial Intelligence (MBZUAI) Postdoctoral Research Fellow (Supervisor: Prof. Kun Zhang)	Abu Dhabi, UAE 2021-present
Carnegie Mellon University Postdoctoral Research Fellow (Supervisor: Prof. Kun Zhang)	Pittsburgh, PA, USA 2021-2024
Carnegie Mellon University CMU-CLeaR Group Leader (Supervisor: Prof. Kun Zhang)	Pittsburgh, PA, USA 2024-present

Publications

* indicates equal contribution

Peer-Reviewed Journal Publications

- [1] Jinglin Xu*, **Guangyi Chen***, Jiwen Lu, and Jie Zhou
Probabilistic Temporal Modeling for Unintentional Action Localization
IEEE Transactions on Image Processing (**TIP**, *IF: 9.34*), 2022
- [2] Jinglin Xu*, **Guangyi Chen***, Jiwen Lu, and Jie Zhou
Unintentional Action Localization via Counterfactual Examples
IEEE Transactions on Image Processing (**TIP**, *IF: 9.34*), 2022
- [3] **Guangyi Chen**, Tianpei Gu, Jiwen Lu, Jinan Bao, and Jie Zhou
Person Re-identification via Attention Pyramid
IEEE Transactions on Image Processing (**TIP**, *IF: 9.34*), 2020
- [4] **Guangyi Chen**, Jiwen Lu, Ming Yang, and Jie Zhou
Learning Recurrent 3D Attention for Video-based Person Re-identification
IEEE Transactions on Image Processing (**TIP**, *IF: 9.34*), 2020
- [5] **Guangyi Chen**, Jiwen Lu, Ming Yang, and Jie Zhou
Spatial-Temporal Attention-aware Learning for Video-based Person Re-identification
IEEE Transactions on Image Processing (**TIP**, *IF: 9.34*), 2019, Featured Article

Peer-Reviewed Conference Publications

- [6] Zuyan Liu, Benlin Liu, Jiahui Wang, Yuhao Dong, **Guangyi Chen**, Jiwen Lu, Ranjay Krishna, Yongming Rao
Efficient Inference of Vision Instruction-Following Models with Elastic Cache
18th European Conference on Computer Vision (**ECCV**), 2024
- [7] **Guangyi Chen***, Yifan Shen*, Zhenhao Chen*, Xiangchen Song, Yuewen Sun, Weiran Yao, Xiao Liu, Kun Zhang
CaRiNG: Learning Temporal Causal Representation under Non-Invertible Generation Process
International Conference on Machine Learning (**ICML**), 2024

- [8] Yuke Li*, **Guangyi Chen***, Ben Abramowitz, Stefano Anzellott, Donglai Wei
Learning Domain-Invariant Causal Temporal Dynamics for Few-Shot Action Recognition
International Conference on Machine Learning (**ICML**), 2024
- [9] Shiyi Zhang, Sule Bai, **Guangyi Chen**, Lei Chen, Jiwen Lu, Junle Wang, Yansong Tang
Narrative Action Evaluation with Prompt-Guided Multimodal Interaction
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024
- [10] **Guangyi Chen***, Yuke Li*, Xiao Liu, Zijian Li, Eman Al Suradi, Donglai Wei, Kun Zhang
LLCP: Learning Latent Causal Processes for Reasoning-based Video Question Answer
The Twelveth International Conference on Learning Representations (**ICLR**), 2024
- [11] Songyao Jin, Feng Xie, **Guangyi Chen**, Biwei Huang, Zhengming Chen, Xinshuai Dong, Kun Zhang
Structural Estimation of Partially Observed Linear Non-Gaussian Acyclic Model: A Practical Approach with Identifiability
The Twelveth International Conference on Learning Representations (**ICLR**), 2024
- [12] Longkang Li, Ignavier Ng, Gongxu Luo, Biwei Huang, **Guangyi Chen**, Tongliang Liu, Bin Gu, Kun Zhang
Federated Causal Discovery from Heterogeneous Data
The Twelveth International Conference on Learning Representations (**ICLR**), 2024
- [13] Sheng Zhang, Muzammal Naseer, **Guangyi Chen**, Zhiqiang Shen, Salman Khan, Kun Zhang, Fahad Khan
Towards Realistic Zero-Shot Classification via Self Structural Semantic Alignment
Thirty-Eighth AAAI Conference on Artificial Intelligence (**AAAI**), 2024, **Oral**
- [14] Xiao Liu, **Guangyi Chen**, Yansong Tang, Guangrun Wang, Xiao-Ping Zhang, Ser-Nam Lim
Language-free Compositional Action Generation via Decoupling Refinement
IEEE International Conference on Acoustics, Speech and Signal Processing (**ICASSP**), 2024, **Oral**
- [15] Tianjun Yao, Jiaqi Sun, Defu Cao, Kun Zhang, **Guangyi Chen**†
MuGSI: Distilling GNNs with Multi-Granularity Structural Information for Graph Classification
Proceedings of the ACM on Web Conference (**WWW**), 2024
- [16] Zijian Li, Ruichu Cai, **Guangyi Chen**, Boyang Sun, Zhifeng Hao and Kun Zhang
Subspace Identification for Multi-Source Domain Adaptation
Thirty-seventh Conference on Neural Information Processing Systems (**NeurIPS**), 2023, **Spotlight**
- [17] Xiangchen Song, Weiran Yao, Yewen Fan, Xinshuai Dong, **Guangyi Chen**, Juan Carlos Niebles, Eric Xing, and Kun Zhang
Temporally Disentangled Representation Learning under Unknown Nonstationarity
Thirty-seventh Conference on Neural Information Processing Systems (**NeurIPS**), 2023
- [18] Rongqing Li, Changsheng Li, Dongchun Ren, **Guangyi Chen**, Ye Yuan and Guoren Wang
BCDiff: Bidirectional Consistent Diffusion for Instantaneous Trajectory Prediction
Thirty-seventh Conference on Neural Information Processing Systems (**NeurIPS**), 2023
- [19] **Guangyi Chen***, Xiao Liu*, Guangrun Wang, Kun Zhang, Phillip Torr, Xiao-Ping Zhang, and Yansong Tang
Tem-adaptor: Adapting Image-Text Pretraining for Video Question Answer
IEEE International Conference on Computer Vision (**ICCV**), 2023
- [20] Jiaqi Sun, Lin Zhang, **Guangyi Chen**, Kun Zhang, Peng Xu, and Yujiu Yang
Feature Expansion for Graph Neural Networks
International Conference on Machine Learning (**ICML**), 2023
- [21] **Guangyi Chen***, Zhenhao Chen*, Shunxing Fan, and Kun Zhang
Unsupervised Sampling Promoting for Stochastic Human Trajectory Prediction
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023
- [22] Lingjing Kong, Martin Q. Ma, **Guangyi Chen**, Eric P. Xing, Yuejie Chi, Louis-Philippe Morency, and Kun Zhang
Understanding Masked Autoencoders via Hierarchical Latent Variable Models
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023, **Highlight**
- [23] Sheng Zhang, Salman Khan, Zhiqiang Shen, Muzammal Naseer, **Guangyi Chen**, and Fahad Khan
PromptCAL: Contrastive Affinity Learning via Auxiliary Prompts for Generalized Novel Category Discovery
IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023
- [24] **Guangyi Chen**, Weiran Yao, Xiangchen Song, Xinyue Li, Yongming Rao, and Kun Zhang
PLOT: Prompt Learning with Optimal Transport for Vision-Language Models
The Eleventh International Conference on Learning Representations (**ICLR**), 2023, **Spotlight**
- [25] Junlong Li, **Guangyi Chen**, Yansong Tang, Jinan Bao, Kun Zhang, Jie Zhou, and Jiwen Lu,
GAIN: On the Generalization of Instructional Action Understanding
The Eleventh International Conference on Learning Representations (**ICLR**), 2023

- [26] Qiaosong Chu, Shuyan Li, **Guangyi Chen**, Kai Li, Xiu Li, Adversarial Alignment for Source Free Object Detection
Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI), 2023, **Oral**
- [27] Weiran Yao, **Guangyi Chen**, and Kun Zhang
Temporally Disentangled Representation Learning
Thirty-sixth Conference on Neural Information Processing Systems (NeurIPS), 2022
- [28] Lingjing Kong, Shaoan Xie, Weiran Yao, Yujia Zheng, **Guangyi Chen**, Petar Stojanov, Victor Akinwande, and Kun Zhang
Partial disentanglement for domain adaptation
International Conference on Machine Learning (ICML), 2022
- [29] Tianpei Gu*, **Guangyi Chen***, Junlong Li, Chunze Lin, Yongming Rao, Jie Zhou, and Jiwen Lu
Stochastic Trajectory Prediction via Motion Indeterminacy Diffusion
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022
- [30] Yongming Rao, Wenliang Zhao, **Guangyi Chen**, Yansong Tang, Zheng Zhu, Guan Huang, Jie Zhou, and Jiwen Lu
DenseCLIP: Language-Guided Dense Prediction with Context-Aware Prompting
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022
- [31] Jinglin Xu*, Yongming Rao*, Xumin Yu, **Guangyi Chen**, Jie Zhou, and Jiwen Lu
FineDiving: A Fine-grained Dataset for Procedure-aware Action Quality Assessment
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2022, **Oral**
- [32] **Guangyi Chen**, Junlong Li, Nuoxing Zhou, Liangliang Ren, and Jiwen Lu
Personalized Trajectory Prediction via Distribution Discrimination
IEEE International Conference on Computer Vision (ICCV), 2021
- [33] **Guangyi Chen**, Junlong li, Jiwen Lu, and Jie Zhou
Human Trajectory Prediction via Counterfactual Analysis
IEEE International Conference on Computer Vision (ICCV), 2021
- [34] Yongming Rao*, **Guangyi Chen***, Jiwen Lu, and Jie Zhou
Counterfactual Attention Learning for Visual Recognition
IEEE International Conference on Computer Vision (ICCV), 2021
- [35] Nuoxing Zhou, **Guangyi Chen**, Jinglin Xu, Weishi Zheng, and Jiwen Lu
Temporal Label Aggregation for Unintentional Action Localization
2021 IEEE International Conference on Multimedia and Expo (ICME), 2021
- [36] **Guangyi Chen**, Yuhao Lu, Jiwen Lu, and Jie Zhou
Deep Credible Metric Learning for Unsupervised Domain Adaptation Person Re-identification
16th European Conference on Computer Vision (ECCV), 2020
- [37] **Guangyi Chen***, Yongming Rao*, Jiwen Lu, and Jie Zhou
Temporal Coherence or Temporal Motion: Which is More Critical for Video-based Person Re-identification?
16th European Conference on Computer Vision (ECCV), 2020
- [38] **Guangyi Chen**, Tianren Zhang, Jiwen Lu, and Jie Zhou
Deep Meta Metric Learning
IEEE International Conference on Computer Vision (ICCV), 2019
- [39] **Guangyi Chen**, Chunze Lin, Liangliang Ren, Jiwen Lu, and Jie Zhou
Self-Critical Attention Learning for Person Re-identification
IEEE International Conference on Computer Vision (ICCV), 2019
- [40] **Guangyi Chen**, Jiwen Lu, Jianjiang Feng and Jie Zhou
Localized Multi-kernel Discriminative Canonical Correlation Analysis for Video-based Person Re-identification
2017 IEEE International Conference on Image Processing (ICIP), 2017, **Oral**

Patent & Software Copyright

- [1] **Guangyi Chen**, Jiwen Lu, Ming Yang, and Jie Zhou
Video object feature extraction method and device, video object matching method and device
patent, publish number: ZL 2018 1 1527701.5
- [2] Jiwen Lu, Jie Zhou, Liangliang Ren, **Guangyi Chen**, and Chunze Lin
Person detection and recognition system
software copyright, publish number: 2017SR533034

Talks

- **Causal Representation Learning for Video Understanding**
Invited Talk at Pacific Causal Inference Conference (PCIC) July 2024
- **Prompt Learning Meets Visual Context**
Invited Talk at Valse June 2024
- **Causality in Computer Vision**
Invited Talk at Shandong University June 2023
- **PLOT: Prompt Learning with Optimal Transport for Vision-Language Models**
ICLR'2017 Spotlight May 2023
- **Causal Inference for Computer Vision**
Invited Talk at Cargenie Mellon University (CMU) Nov 2021
- **Causal Inference for Computer Vision**
Invited Talk at Swiss Federal Institute of Technology Lausanne (EPFL) Nov 2021
- **Localized Multi-kernel Discriminative CCA for Video-based Person ReID**
ICIP'2017 Oral Aug 2017

Awards

- Jiang Zhen Scholarship at Tsinghua University 2020
- 2nd place in Semi-Supervised Recognition Challenge at FGVC7 2020
- Samsung Scholarship 2019
- Academic Excellence Scholarship at Tsinghua University 2015
- Tsinghua Scholarship 2014
- National Encouragement Scholarship 2014
- National Encouragement Scholarship 2013

Teaching Assistant

- Analog Electronic Technology Foundation, Tsinghua University, 2018.
- Analog Electronic Technology Foundation, Tsinghua University, 2019.
- Numerical Analysis and Algorithm, Tsinghua University, 2019.
- Probabilistic and Statistical Inference (ML703), MBZUAI, 2021, Fall.
- Probabilistic and Statistical Inference (ML703), MBZUAI, 2022, (Spring, Fall).
- Advanced Probabilistic and Statistical Inference (ML803), MBZUAI, 2023, (Spring, Fall).
- Advanced Probabilistic and Statistical Inference (ML803), MBZUAI, 2024, Spring.

Post Co-advised Students

- Tianren Zhang (2018-2019), Phd at Tsinghua University
- Yuhao Lu (2019-2020), Bytedance
- Weilin Huang (2019-2020), Phd at Tsinghua University
- Junlong Li (2020-2022), Bytedance
- Wenliang Zhao (2020-2022), Phd at Tsinghua University
- Tianpei Gu (2020-2022), Krea AI
- Nuoxing Zhou (2020-2021), Master at Northwestern University
- Jinan Bao (2020-2021), Master at University of Alberta
- Weiran Yao (2021-2023), Salesforce
- Sheng Zhang (2022-2024), Phd at University of Maryland
- Songyao Jin (2022-2024), Phd at University of California San Diego

- Eman Al Suradi, (2022-2024), MBZUAI

Current Co-advised Students

- Lingjing Kong (2021-), Carnegie Mellon University
- Xiangchen Song (2021-), Carnegie Mellon University
- Jiaqi Sun (2022-), Carnegie Mellon University
- Xiao Liu (2022-), Tsinghua Shenzhen International Graduate School
- Zijian Li (2022-), MBZUAI
- Zhenhao Chen (2022-), MBZUAI
- Boyang Sun (2022-), MBZUAI
- Zhengqing Gao (2022-), MBZUAI
- Shunxing Fan (2022-), MBZUAI
- Yifan Shen (2022-), MBZUAI
- Loka Li (2022-), MBZUAI
- Gongxu Luo (2022-), MBZUAI
- Yiwen Qiu (2023-), Carnegie Mellon University
- Minghao Fu (2023-), MBZUAI
- Zongfang Liu (2023-), MBZUAI
- Ce Chen (2024-), MBZUAI
- Yan Li (2024-), MBZUAI
- Yunlong Deng (2024-), MBZUAI

Academic Services

Publicity Chair

- Serve as a publicity chair for CLeaR 2023.

Co-Organizer

- Co-Organizer on the Causal Representation Learning Workshop at NeurIPS 2024.
- Co-Organizer on the Causal Representation Learning Workshop at ICDM 2024.
- Co-Organizer on The Third Workshop on Human Identification in Multimedia (HIM'19) at ICME 2019.

Journal Reviewer

- IEEE Transactions on Pattern Analysis and Machine Intelligence
- IEEE Transactions on Image Processing
- International Journal of Computer Vision
- IEEE Transactions on Neural Networks and Learning Systems
- IEEE Transactions on Multimedia
- IEEE Transactions on Circuits and Systems for Video Technology
- ACM Computing Surveys
- Pattern Recognition
- Image and Vision Computing
- Pattern Recognition Letters
- Neuralcomputing
- Journal of Visual Communication and Image Representation
- Visual Intelligence

- Data Mining and Knowledge Discovery
- IEEE Internet of Things Journal
- IEEE Access
- Information Fusion
- International Journal of Applied Earth Observation and Geoinformation

Conference Reviewer

- IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2020, 2021, 2022, 2023, 2024)
- Neural Information Processing Systems (NeurIPS 2020, 2021, 2022, 2023, 2024)
- IEEE International Conference on Computer Vision (ICCV 2021, 2023)
- International Conference on Learning Representations (ICLR 2022, 2023, 2024)
- International Conference on Machine Learning (ICML 2021, 2022, 2023, 2024)
- European Conference on Computer Vision (ECCV 2020, 2022, 2024)
- International Joint Conference on Artificial Intelligence (IJCAI 2021)
- AAAI Conference on Artificial Intelligence (AAAI 2024)
- IEEE International Conference on Data Mining (ICDM 2024)
- Association for Uncertainty in Artificial Intelligence (UAI 2022)
- IEEE International Conference on Multimedia and Expo (ICME 2018, 2019, 2020, 2021, 2022, 2023)
- IEEE Winter Conference on Applications of Computer Vision (WACV 2020, 2021, 2022, 2023)
- International Conference on Pattern Recognition (ICPR 2018, 2019, 2020)
- IEEE International Conference on Image Processing (ICIP 2018, 2019, 2020)