
Hao Chen

Artificial intelligence is about the people, not the machines.

CONTACT INFORMATION

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WORKING EXPERIENCE

Postdoctoral Researcher at **Meta** July 2023 - Now
New York City, NY

EDUCATION

PhD in Computer Science Sep. 2018 - May 2023
University of Maryland, Colledge Park
Advisor: Abhinav Shrivastava

Master in Pattern Recognition & Intelligent System Sep. 2015 - Jun. 2018
Huazhong University of Science & Technology
Advisor: Guoyou Wang

B.Eng in Optoelectronic Information Engineering Sep. 2011 - Jun. 2015
Huazhong University of Science & Technology

INTERESTS

Implicit video representation, compression techniques, efficient computation
I proposed an implicit neural representation for videos during my Ph.D. and have been building an implicit framework based on it. I envision this implicit space functioning similarly to the Fourier Transform in signal processing, offering new perspectives and facilitating various tasks in video processing. These tasks include compression, enhancement, processing, analysis, and generation of videos. Additionally, this framework can be applied to many other types of sequential data, such as aerial and medical imagery videos, dynamic point clouds.

PUBLICATIONS

- Fast Encoding and Decoding for Implicit Video Representation
(**Under Review**)
Hao Chen, Saining Xie, Ser-Nam Lim, Abhinav Shrivastava
- HNeRV: A Hybrid Neural Representation for Videos
(**CVPR 2023**)
Hao Chen, Matt Gwilliam, Ser-Nam Lim, Abhinav Shrivastava
- Towards Scalable Neural Representation for Diverse Videos
(**CVPR 2023**)
Bo He, Xitong Yang, Hanyu Wang, Zuxuan Wu, **Hao Chen**, Shuaiyi Huang, Yixuan Ren, Ser-Nam Lim, Abhinav Shrivastava
- CNeRV: Generalizable Neural Visual Representation with Content-adaptive Embedding
(**BMVC 2022 Oral**)
Hao Chen, Matt Gwilliam, Bo He, Ser-Nam Lim, Abhinav Shrivastava
- NeRV: Neural Representations for Videos
(**NeurIPS 2021**)
Hao Chen, Bo He, Hanyu Wang, Yixuan Ren, Ser-Nam Lim, Abhinav Shrivastava
- HR-RCNN: Hierarchical Relational Reasoning for Object Detection
(**BMVC 2021**)
Hao Chen, Abhinav Shrivastava
- Group Ensemble: Learning an Ensemble of ConvNets in a single ConvNet

(Arxiv Preprint)

Hao Chen, Abhinav Shrivastava

- The Lottery Ticket Hypothesis for Object Recognition

(CVPR 2021)

Sharath Girish, Shishira R. Maiya, Kamal Gupta, **Hao Chen**, Larry Davis, Abhinav Shrivastava

- GTA: Global Temporal Attention for Video Action Understanding

(BMVC 2021)

Bo He, Xitong Yang, Zuxuan Wu, **Hao Chen**, Ser-Nam Lim, Abhinav Shrivastava

- Progressive Object Transfer Detection

(TIP-2019)

Hao Chen, Yali Wang, Guoyou Wang, Xiang Bai, Yu Qiao

- LSTD: A Low-Shot Transfer Detector for Object Detection

(AAAI-2018 Spotlight)

Hao Chen, Yali Wang, Guoyou Wang, Yu Qiao

EXPERIENCE

- Multimedia Lab at Shenzhen Institutes of Advanced Technology

Visiting student, work closely with Prof. Yu Qiao (Jan. 2017 - Aug. 2017)

- Teaching assistant for CMSC320 at UMD (2018 Fall)

- Research assistant for Prof. Abhinav at UMD (2019 - 2023)

- Research intern at Adobe (May 2021 - August 2021)

Work on panoptic segmentation, with Zhe Lin

- Research intern at Titok (May 2022 - August 2022)

Work on generalizable video neural representation, with Heng Wang

- PostDoc Researcher at Meta (July 2023 - Present)

Work on implicit framework to enable video recognition and generation in implicit space

AWARDS

- National Endeavor Fellowship in 2013

- UMD Dean Fellowship 2019-2020