

# Huabin Liu

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📅 1997/5/29



## Curriculum Vitae

**Bio.** I am a 5th-year PhD Student at Shanghai Jiao Tong University, working with [Weiyao Lin](#) on video understanding and analysis. Currently, I'm visiting the University of Amsterdam as a visiting PhD student, advised by [Cees Snoek](#).

**Research interests.** My previous research work covers : **fine-grained image recognition, video understanding, few-shot learning**. Currently, I mainly focus on **multi-modality video understanding and reasoning**.

## 🎓 Education

- Dec 2023 – **Visiting PhD student**, University of Amsterdam (UvA), Netherlands  
Dec 2024 (expected) Video & Image Sense Lab (VIS Lab)  
Advisor : [Cees Snoek](#)
- Sep 2019 – **PhD Candidate** in Department of Electronic Engineering, *Shanghai Jiao Tong University* (SJTU)  
Jun 2025 (expected) Institute of Media, Information, and Network (MIN Lab)  
Advisor : [Weiyao Lin](#)
- Sep 2015 – Jun 2019 **Bachelor of Engineering**, *Xidian University* (XDU), Xi'an  
Majors in Electromagnetic Fields Micro Wave Technology  
GPA : 3.72/4.0   Rank : Top 5%

## 📖 Publications

- **Huabin Liu**, Jianguo Li, Dian Li, John See, Weiyao Lin, “Learning Scale-Consistent Attention Part Network for Fine-grained Image Recognition,” published in *IEEE Transactions on Multimedia (TMM)*, 2021.  
weakly-supervised fine-grained recognition
- **Huabin Liu**, Weixian Lv, John See, Weiyao Lin, “Task-adaptive Spatial-Temporal Video Sampler for Few-shot Action Recognition”, published in *ACM Multimedia*, 2022.  
temporal frame selection spatial region zoom dynamic sampling strategy few-shot action recognition
- **Huabin Liu**, Xiao Ma, Cheng Zhong, Yang Zhang, Weiyao Lin, “TimeCraft : Navigate Weakly-Supervised Temporal Grounded Video Question Answering via Bi-directional Reasoning”, accepted by ECCV, 2024  
video question answering video reasoning temporal grounding
- **Huabin Liu**, Weiyao Lin, Tiejun Chen, Yuxi Li, Shuyuan Li, John See, “Few-shot Action Recognition via Intra-and Inter-Video Information Maximization,” submitted to International Journal of Computer Vision (IJCV), under the 2nd round review  
video information maximization few-shot action recognition
- Hao Wu\*, **Huabin Liu\*(co-first)**, Yu Qiao, Xiao Sun, “DIBS : Enhancing Dense Video Captioning with Unlabeled Videos via Pseudo Boundary Enrichment and Online Refinement”, published in CVPR, 2024  
Dense video captioning large Language model
- Shuyuan Li\*, **Huabin Liu\*(co-first)**, Rui Qian, Yuxi Li, John See, Mengjuan Fei, Xiaoyuan Yu, Weiyao Lin, “TA2N : Two-Stage Action Alignment Network for Few-shot Action Recognition” published in AAAI, 2022  
spatial-temporal action alignment few-shot action recognition
- Tiejun Chen\*, **Huabin Liu\*(co-first)**, Cheng Zhong, Yang Zhang, Weiyao Lin, MECD : Unlocking Multi-event Causal Discovery in Video Reasoning, 2024, under review  
video causal discovery long-term video understanding
- Weiyao Lin, **Huabin Liu**, Shizhan Liu, Yuxi Li, Ning Xu, Hongkai Xiong, Guo-Jun Qi, Nicu Sebe “HiEve : A large-scale benchmark for human-centric video analysis in complex events” accepted by *International Journal of Computer Vision (IJCV)*, 2023  
human-centric video dataset large-scale benchmark co-learning
- Tianyao He, **Huabin Liu**, Yuxi Li, Xiao Ma, Cheng Zhong, Yang Zhang, Weiyao Lin “Collaborative Weakly Supervised Video Correlation Learning for Procedure-Aware Instructional Video Analysis” published in AAAI, 2024  
instructional video step learning procedure verification
- Jiahao Fan, **Huabin Liu**, Wenjie Yang, John See, Weiyao Lin, “Speed Up Object Detection on Gigapixel-Level Images With Patch Arrangement” published in CVPR, 2022  
reinforcement learning object detection super high-resolution
- Rui Qian, Yuxi Li, **Huabin Liu**, John See, Shuangrui Ding, Xian Liu, Dian Li, Weiyao Lin, “Enhancing Self-supervised Video Representation Learning via Multi-level Feature Optimization” published in ICCV, 2021  
contrastive learning video representation

## </> Projects & Experiences

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- Dec 2023**  
**current** | **Visiting PhD student, University of Amsterdam, Amsterdam, Netherlands**
- > Exploring video-language models in video causal reasoning and question-answering
- video reasoning | video question answering | video-language model
- Feb 2023**  
**current** | **Computer vision research intern, Shanghai AI Laboratory, Shanghai**
- > May-Nov 2023, devised a weakly-supervised framework for dense video captioning using large-scale unlabeled video data. The paper of this work has been accepted by CVPR 2024.
  - > Nov-now, exploring the LLM-driven long-term video understanding.
- video understanding | Large language model
- Jan 2020**  
**Jun 2020** | **Organization of HiEve dataset and corresponding challenge 2020, SJTU, ACM MM 2020**
- > Participant in the data collection, official website design, evaluation server, and organization of challenge. Get the Best Grand Challenge organization award in ACM MM.
  - > Responsible for the paper on the HiEve dataset; proposed two novel enhanced baselines for pose estimation and action recognition on HiEve. The paper has been published in IJCV.
- > 🌐: <http://humanevents.org/>
- Human-centric large-scale video dataset | challenge | novel enhanced baselines | HiEve paper
- Jan 2019**  
**Sep 2019** | **Computer vision research intern, Aibee Inc., Beijing**
- > Jan-Apr 2019, working on an interpretable fine-grained image recognition method. Its performances achieve SOTA at that time. This work was also nominated as an outstanding dissertation for bachelor's degree at Xidian University.
  - > May-Sep 2019, devised an attention-based model for fine-grained recognition. The paper has been published in IEEE Transactions on Multimedia, 2021.
- fine-grained image | discriminative part localization | weakly supervised | multi-scale part selection | attention

## 🔑 Honors & Awards

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- 2024 | Founded by China Scholarship Council (CSC) to visit the University of Amsterdam as a researcher for 1 year
- Fall 2022** | CETC scholarship for Ph.D. students (¥20000).
- Fall 2020** | Selected as a member of Wu Wenjun AI honorary doctor class in Shanghai Jiao Tong University (<1%).
- Spring 2019** | Outstanding undergraduate student of Xidian University (XDU).
- 2015 - 2018 | First Prize Scholarship of Xidian University (<4%), 3 times
- 2015 - 2018 | Outstanding Student of Xidian University (<3%), 2 times
- Fall 2017** | First prize of National college students Mathematical Contest in Shaanxi (<3%).

## 💡 Self-evaluation

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- > Work seriously and tidily, with independent thinking and analytical ability.
- > A quick learner in new research fields.
- > Good communication and cooperation ability.