XINGYI HE

Address: Hangzhou, China | **Email: hexingyi8@gmail.com** | **Homepage: https://hxy-123.github.io/**

SHORT BIO

I am a fourth-year (2021.09-) Ph.D. student in Computer Science at Zhejiang University, supervised by Prof. Xiaowei Zhou. I obtained my bachelor degree in the School of Artificial Intelligence and Automation from the Huazhong University of Science and Technology (HUST) in 2021.

My research interests focus on 3D computer vision and robotics, with the goal of creating a beautiful AR world and developing highly intelligent embodied systems that can understand the world and accomplish long-horizon tasks. My previous work spans areas including image matching, point tracking, 3D reconstruction, visual localization, and object pose estimation.

EDUCATION

Zhejiang University *2021.09 - 2026.06 (Expected)*
Ph.D. student in Computer Science and Technology (State Key Laboratory of CAD&CG)

Huazhong University of Science and Technology *2017.09 - 2021.06*
B.S. in School of Artificial Intelligence and Automation Major GPA: 3.97/4.0, Rank: 1/147 for four years

EXPERIENCE

State Key Laboratory of CAD&CG, Zhejiang University *2020.12 - present*
Advised by Prof. Xiaowei Zhou and work closely with Prof. Sida Peng and Jiaming Sun.

SenseTime Research, Algorithm Intern *2020.12 - 2022.4*
Advised by Jiaming Sun and research on Image Matching and 6DoF Object Pose Estimation.

SELECTED PUBLICATIONS (* DENOTES EQUAL CONTRIBUTION)

Detector-Free Structure from Motion **CVPR 2024**
Xingyi He, Jiaming Sun, Yifan Wang, Sida Peng, Qixing Huang, Hujun Bao, Xiaowei Zhou.
Project Page, First place in Image Matching Challenge 2023

ELoFTR: Semi-Dense Local Feature Matching with Sparse-Like Speed **CVPR 2024**
Yifan Wang*, **Xingyi He***, Sida Peng, Dongli Tan, Xiaowei Zhou.
Project Page, HighLight

AutoRecon: Automated 3D Object Discovery and Reconstruction **CVPR 2023**
Yuang Wang, **Xingyi He**, Sida Peng, Haotong Lin, Hujun Bao, Xiaowei Zhou.
Project Page, HighLight

OnePose++: Keypoint-Free One-Shot Object Pose Estimation without CAD Models **NeurIPS 2022**
Xingyi He*, Jiaming Sun*, Yuang Wang, Di Huang, Hujun Bao, Xiaowei Zhou.
Project Page

OTHER PUBLICATIONS

High-Fidelity and Real-Time Novel View Synthesis for Dynamic Scenes **SIGGRAPH Asia 2023**
Haotong Lin, Sida Peng, Zhen Xu, Tao Xie, **Xingyi He**, Hujun Bao, Xiaowei Zhou.

Reconstructing hand-held objects from monocular video **SIGGRAPH Asia 2022**
Di Huang, Xiaopeng Ji, **Xingyi He**, Jiaming Sun, Tong He, Qing Shuai, Wanli Ouyang, Xiaowei Zhou.

Modeling indirect illumination for inverse rendering **CVPR 2022**
Yuanqing Zhang, Jiaming Sun, **Xingyi He**, Huan Fu, Rongfei Jia, Xiaowei Zhou.

OnePose: One-shot object pose estimation without cad models **CVPR 2022**
Jiaming Sun, Zihao Wang, Siyu Zhang, **Xingyi He**, Hongcheng Zhao, Guofeng Zhang, Xiaowei Zhou.

Semi-Dense Feature Matching With Transformers and its Applications in Multiple-View Geometry **T-PAMI 2022**
Zehong Shen, Jiaming Sun, Yuang Wang, **Xingyi He**, Hujun Bao, Xiaowei Zhou.

AWARDS & HONORS

Kaggle 2023 Best Solution, among a total of 10 teams worldwide.
Image Matching Challenge 2023, CVPR Workshop, Winner (Rank 1/494)
I am the *lead contributor*, and our solution based on my paper Detector-Free SfM can be found here. I was also invited to present it at the CVPR 2023 workshop.

Image Matching Challenge 2021, CVPR Workshop, 4th Place
SimLocMatch 2021, CVPR Workshop, 2nd Place
I am the *lead contributor* and the solution can be found here.

National Scholarship 2019
National Scholarship 2018

SERVICES

Conferences: CVPR, ICCV, ECCV, NeurIPS, ICLR, ICML, AAAI, 3DV, ICRA

Journal: IJCV, T-RO, TIP, TPAMI

TEACHING

Introduction to Computer Vision, Teaching Assistant *Fall, 2024*
Introduction to Computer Vision, Teaching Assistant *Fall, 2023*
Introduction to Computer Vision, Teaching Assistant *Fall, 2022*
Introduction to Computer Vision, Teaching Assistant *Fall, 2021*