Zixuan Huang

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Education

University of Illinois Urbana-Champaign   2023 – 2025 (expected)
PhD in Computer Science
- Advisor: James M. Rehg
- GPA to date: 4.0/4.0

Georgia Institute of Technology   2020 – 2023 (transferred to UIUC)
PhD in Computer Science
- Advisor: James M. Rehg
- GPA to date: 4.0/4.0

University of Wisconsin-Madison   2018 – 2020
Master of Science in Computer Science
- Advisor: Yin Li
- Core Curricula: Computer Vision, Machine Learning, HPC, Non-linear Optimization
- GPA: 3.93/4.0

University of Science and Technology of China   2014 – 2018
Bachelor of Engineering in Information Security
- Core Curricula: Signals and Systems, Stochastic Processes, Introduction to Algorithms, Operating Systems, Digital Image Analysis, Mathematical Analysis, Cryptography
- Special Class for the Gifted Young
- GPA: 3.87/4.30

Publication

[12] **PointInfinity: Resolution-Invariant Point Diffusion Models**
Zixuan Huang, Justin Johnson, Shoubhik Debnath, James M. Rehg, Chao-Yuan Wu
CVPR 2024

[11] **ZeroShape: Regression-based Zero-shot Shape Reconstruction**
Zixuan Huang*, Stefan Stojanov**, Anh Thai, Varun Jampani, James M. Rehg
CVPR 2024

[10] **SF3D: Stable Fast 3D Mesh Reconstruction with UV-unwrapping and Illumination Disentanglement**
Mark Boss, **Zixuan Huang**, Aaryaman Vasishta, Varun Jampani
arXiv Preprint

[9] **If LLM Is the Wizard, Then Code Is the Wand: A Survey on How Code Empowers Large Language Models to Serve as Intelligent Agents**
Ke Yang, Jiateng Liu, John Wu, Chaoqi Yang, Yi Fung, Sha Li, **Zixuan Huang**, Xu Cao, Xingyao Wang, Heng Ji, ChengXiang Zhai
ICLR 2024, Workshop on Large Language Models for Agents

[8] **TripoSR: Fast 3D Object Reconstruction from a Single Image**
Dmitry Tochilkin, David Pankratz, Zexiang Liu, **Zixuan Huang**, Adam Letts, Yangguang Li, Ding Liang, Christian Laforte, Varun Jampani, Yan-Pei Cao
arXiv Preprint

[7] **ShapeClipper: Scalable 3D Shape Learning from Single-View Images via Geometric and CLIP-based Consistency**
Zixuan Huang, Varun Jampani, Anh Thai, Yuanzhen Li, Stefan Stojanov, James M. Rehg
CVPR 2023

[6] **Low-shot Object Learning with Mutual Exclusivity Bias**
Anh Thai, Ahmad Humayun, Stefan Stojanov, **Zixuan Huang**, Bikram Boote, James M. Rehg
NeurIPS 2023, Datasets and Benchmarks Track

[5] **Planes vs. Chairs: Category-guided 3D Shape Learning without Any 3D Cues**
Zixuan Huang, Stefan Stojanov, Anh Thai, Varun Jampani, James M. Rehg
ECCV 2022

[4] **The Surprising Positive Knowledge Transfer in Continual 3D Object Shape Reconstruction**
Anh Thai, Stefan Stojanov, **Zixuan Huang**, James M. Rehg
3DV 2022

[3] **Learning Dense Object Descriptors from Multiple Views for Low-shot Category Generalization**
Stefan Stojanov, Anh Thai, **Zixuan Huang**, James M. Rehg
NeurIPS 2022

[2] **Interpretable and Accurate Fine-grained Recognition via Region Grouping**
Zixuan Huang, Yin Li
CVPR, oral presentation, 2020

[1] **HMS-Net: Hierarchical Multi-scale Sparsity-invariant Network for Sparse Depth Completion**
Zixuan Huang, Junming Fan, Shenggan Cheng, Shuai Yi, Xiaogang Wang, Hongsheng Li
IEEE Trans. on Image Processing (TIP), 2019

Research Experiences

Research Assistant | Rehg Lab, UIUC   Sept. 2020 – current
Advisor: James M. Rehg, Professor, UIUC
- Generalizable 3D shape reconstruction [11]
- Scalable learning of 3D object shapes via off-the-shelf semantic and geometric cues [7]
- Single-view supervised 3D reconstruction through category contrast [5]

Research Intern | Stability AI   Feb. 2024 – current
Mentor: Varun Jampani, Lead Researcher, Stability AI
- Large 3D reconstruction model [8][9]

Research Intern | FAIR, Meta AI   May. 2023 – July 2023
Mentor: Chao-Yuan Wu, Research Scientist, FAIR
Collaborator: Justin Johnson, Research Scientist, FAIR
- 3D diffusion models [12]

Student Researcher | Google Research   Feb. 2022 – May 2022
Manager: Yuanzhen Li, Senior Staff Software Engineer, Google Research
- 3D shape inference in the wild

Research Assistant | Yin's Group, UW-Madison   Sept. 2018 – May 2020

Advisor: Yin Li, Assistant Professor, UW-Madison

- Interpretable visual recognition via region grouping and a novel part-occurrence prior [2]

Research Intern | Research Center, Sensetime Inc.   Feb. 2018 – June 2018

Advisor: Hongsheng Li, Assistant Professor, Chinese University of Hong Kong

Manager: Shuai Yi, Research Director, Sensetime

- Multi-scale sparsity-invariant network for monocular depth completion [1]

Teaching Experiences

- Teaching Assistant | CS534 @ UW-Madison (Computational Photography)
- Teaching Assistant | CS838 @ UW-Madison (Learning Based Methods for Computer Vision)

Selected Honors and Awards

UW-Madison CS Scholarship   Sept. 2018, Feb. 2019

- Awarded to outstanding students admitted in Fall 2018

Outstanding Student Scholarship of University of Science and Technology of China   Oct. 2017

- Gold, Top 4% of cohort

Institute of Electronics of Chinese Academy of Sciences Scholarship   Dec. 2016

- Top 5% of cohort

Special Class for the Gifted Young   Sept. 2014

- 1 of 43 young talented students selected nationally

Skills & Others

- Proficient in Python and C, familiar with C++ and Matlab
- Proficient in PyTorch and familiar with other deep learning frameworks (e.g. Caffe, TensorFlow)