ANG CAO

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2260 Hayward St, Ann Arbor, MI 48109

RESEARCH INTERESTS

My primary interest is computer vision and machine learning, especially 3D vision. In particularly, I am interested in empowering 3D/4D vision with 2D information, employing Differentiable Rendering and Generative Models.

EDUCATION

University of Michigan, Ann Arbor *2020-present*
Ph.D., Computer Science and Engineering GPA 4.0/4.0
Advisor: Prof. *Justin Johnson*

University of Michigan, Ann Arbor *2018-2020*
Master of Science, Electrical and Computer Engineering GPA 4.0/4.0
Signal & Image Processing and Machine Learning track (SIPML)

Wuhan University *2014-2018*
Bachelor of Science in Electrical Engineering GPA 3.9/4.0

EXPERIENCE

Meta GenAI Research *June 2023 - Nov. 2023*
Research Scientist Intern Mentor: *David Novotny*
We build a pair of instrumental components for 3D neural fields, which scales the 2D-3D mapping by orders of magnitudes. Based on these components, we build a general framework for 3D reconstruction and generation, leading to impressive results.

PREPRINTS

"LightPlane: Highly-Scalable Components for Neural 3D Fields"
Ang Cao, Justin Johnson, Andrea Vedaldi, David Novotny
In Submission, 2023

PUBLICATIONS

(* indicates equal contribution)

"Text2room: Extracting Textured 3D Meshes from 2D Text-to-Image Models"
Lukas Höllein*, **Ang Cao***, Andrew Owens, Justin Johnson, Matthias Nießner
International Conference on Computer Vision, ***ICCV 2023***, Oral
Project Page

"HexPlane: A Fast Representation for Dynamic Scenes"
Ang Cao, Justin Johnson
Computer Vision and Pattern Recognition Conference, ***CVPR 2023***
Project Page

"FWD: Real-time Novel View Synthesis with Forward Warping and Depth"
Ang Cao, Chris Rockwell, Justin Johnson
Computer Vision and Pattern Recognition Conference, ***CVPR 2022***

Project Page

"Inverting and Understanding Object Detector"
Ang Cao, Justin Johnson
Tech Report 2021

"Unified Signal Compression Using Generative Adversarial Networks"
Bowen Liu*, **Ang Cao***, Hun-Seok Kim
45th International Conference on Acoustics, Speech, and Signal Processing, ***ICASSP 2020***, Oral.

AWARDS AND RECOGNITIONS

Rackham Travel Grant, University of Michigan 2023
Rollin M. Gerstacker Foundation Fellowships, University of Michigan 2020
China National Scholarship, award for top 2% Chinese undergraduate 2016, 2017
Outstanding Graduate of Wuhan University 2018
Meritorious Winner of American Mathematical Contest in Modeling 2017
National Undergraduate Innovation Foundation by Chinese Ministry of Education 2016

ACTIVITIES

AI4ALL, University of Michigan 2021
Summer program aimed at providing an entry point to artificial intelligence, computer science and engineering to high school students from under-represented backgrounds.

REVIEWER

CVPR *2022-2024,* ***NeurIPS*** *2023,* ***ICLR*** *2023-2024,* ***ECCV*** *2022,* ***ICCV*** *2023.*
IEEE Transactions on Pattern Analysis and Machine Intelligence (**TPAMI**)
IEEE Transactions on Visualization and Computer Graphics (**TVCG**)