

# YANGYI HUANG

✉ huangyangyi@zju.edu.cn · 🌐 huangyangyi.github.io

## 🎓 EDUCATION

**Zhejiang University (ZJU)**, Hangzhou, China Sep. 2021 - Mar. 2024 (expected)

*Master Student* of Software Engineering, College of Computer Science and Technology

**Supervisor:** Prof. Deng Cai, State Key Lab of CAD&CG

**Research interests:** digital avatars, 3D vision, generative modeling

**GPA during graduate study:** 3.98 / 4

**Zhejiang University (ZJU)**, Hangzhou, China

Sep. 2017 - Jun. 2021

*Bachelor of Computer Science*, College of Computer Science and Technology

Studied in Mixed Class, Chu Kochen Honors College

**GPA during undergraduate study:** 3.75 / 4 (87.47 / 100, overall), 3.98 / 4 (92.19 / 100, last two years)

## 📄 PUBLICATIONS & PROJECTS

### TeCH: Text-guided Reconstruction of Lifelike Clothed Humans

Under review

- **Yangyi Huang\***, Hongwei Yi\*, Yuliang Xiu\*(equal contribution), Tingting Liao, Jiaxiang Tang, Deng Cai, Justus Thies
- We proposed a novel method to reconstruct high-resolution textured meshes for clothed humans from single images, with textual guidance from a VQA model and a few-shot finetuned T2I model, which outperforms existing state-of-the-art methods in terms of reconstruction accuracy and rendering quality.

### TADA! Text to Animatable Digital Avatars

Under review

- Tingting Liao, Hongwei Yi, Yuliang Xiu, Jiaxiang Tang, **Yangyi Huang**, Justus Thies, Michael J. Black
- We proposed a simple-yet-effective approach that create expressive 3D avatars with high-quality geometry and lifelike textures from text, that can be animated and rendered with traditional graphics pipelines.

### One-shot Implicit Animatable Avatars with Model-based Priors

ICCV 2023

- **Yangyi Huang\***, Hongwei Yi\*(equal contribution), Weiyang Liu, H Wang, B Wu, W Wang, B Lin, D Zhang, Deng Cai
- We proposed a novel method for learning human NeRFs from a single image with SMPL-based geometric prior and CLIP-based semantic prior, which requires no extra training data and outperforms strong baselines.

### BEVFormer++: Improving BEVFormer for 3D Camera-only Object Detection

1st place solution for Waymo Open Dataset Challenge 2022

- Zhiqi Li\*, Hanming Deng\*, Tianyu Li\*, **Yangyi Huang\***, Chonghao Sima\*, Xiangwei Geng\*, Yulu Gao\*, Wenhai Wang\*, Yang Li, Lewei Lu
- We enhanced BEVFormer, a DETR-based 3D detection model, with efficient techniques such as multiple detector heads, LET-IoU based methods, and model ensemble.

### FuseFormer: Fusing Fine-Grained Information in Transformers for Video Inpainting

ICCV 2021

- Rui Liu\*, Hanming Deng\*, **Yangyi Huang\***(equal contribution), Xiaoyu Shi, Lewei Lu, Wenxiu Sun, Xiaogang Wang, Jifeng Dai, Hongsheng Li
- We proposed a Transformer-based video inpainting model that fuses fine-grained features via soft operations to inpaint videos with sharp and realistic results, outperformed previous methods.

## ♡ HONORS AND AWARDS

---

Golden Prize, The ACM-ICPC Asia Regional Contest, Xi'an Site	Oct. 2017
Silver Prize, 2018 China Collegiate Programming Contest, Final	Nov. 2018
4 <sup>th</sup> Place, Golden Prize, 2018 China Collegiate Programming Contest, Jilin Site	Sep. 2018
Outstanding Intern of the Year, SenseTime Group Inc.	Dec. 2021
Second Prize Scholarships in 2017, 2018 & 2020 academic years	Oct. 2018, Dec. 2019 & Oct. 2020
Outstanding Student of the year	Dec. 2019
Outstanding Graduate (Awarded on Undergraduate Period)	Jun. 2021

## 🧑 EXPERIENCE

---

**Xiaohongshu Inc.** Beijing, china Sep. 2022 – Aug. 2023

*Research Intern, Creative AI* working with Hongwei Yi

- Working on research projects about creating high-fidelity 3D avatars from monocular images/videos.
- One of the projects "One-shot Implicit Animatable Avatars with Model-based Priors" has been accepted by ICCV 2023.

**Shanghai AI Laboratory** Shanghai, China Mar. 2022 – May. 2022

*Research Intern, PerceptionX* worked with Dr. Hongyang Li

- Collaborated on the 3D Camera Only Detection task of the Waymo Open Challenge 2022, achieving the first place on the leaderboard among self-driving teams from all around the world.
- Mainly responsible for model pre-training, auxiliary loss functions, expert model training, etc., and participated in model structure improvement experiments.

**Sensetime Inc.** Beijing / Shanghai, China May. 2020 – Dec. 2021

*Research Intern, Fundamental Vision* worked with Dr. Jifeng Dai

- Participated in a research project about video inpainting based on vision transformer, in which the proposed method surpasses current state-of-the-art. This work has been accepted by ICCV 2021.
- Improved the industrial 8-bit quantization pipeline of LiDAR 3D models for autonomous driving to reduce the performance drop from >3.9%/1.5% to <0.8%/0.4% (mAP 3D/BEV), with patent under verification.
- Participated in research projects about contrastive language-image pretraining and neural architecture search (NAS) for efficient image backbones.
- Contributed to an industrial AI visual model production framework with components of object detection, data augmentation and light-weight backbone.

**CS Dept., Hong Kong University(HKU)** Hong Kong, China July 2019 – Aug. 2019

*Research Intern* worked with Prof. B.C.M. Kao

- Query log analysis on HKLII, a legal information database of Hong Kong, which provide the public with court documents and legislation documents related to case law.
- Attempted techniques of entity extraction and topic modeling on mining queries, documents and legal concepts.

## ⚙️ SKILLS

---

- Experience in competitive programming (algorithms and data structures).
- Programming Languages: C == C++ == Python > Java == JavaScript.
- Experience in deep learning frameworks, distributed learning, and GPU programming.
- Languages: English (TOFEL = 99, CET6 = 604)