Yang Xueting

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SUMMARY OF RESEARCH

My research interests focus on human reconstruction and multi-view depth estimation.
My research experience covers:
1.Generating a detailed clothed human mesh from a human photo by designing an implicit distribution field,
2.Developing algorithms for depth estimation from multi-view pictures including light field images.
My research interests lie in Computer Vision and Deep learning, spanning topics like 3D digital modeling (NeRF,Implicit Fields), Human pose/shape estimation, Data efficient learning (semi-supervised learning), 2D image driving, medical imaging, etc.

EDUCATION

Sep 2019 — Jun 2023 Bachelor of Information and Communication Engineering, Communication University of China, **the Overall GPA: 3.74/4.0**, **the Major GPA: 3.73/4.0**

Languages grade CET-4:604 CET-6:521

PUBLICATIONS

1 **Xueting Y.**;Yihao L.;Yuliang X.;Wei W.;Hao X.;Zhaoxin F.,**D-IF: Uncertainty-aware Human Digitization via Implicit Distribution Field,** International Conference on Computer Vision (ICCV), 2023. [Accepted]

2 **Xueting Y.**;Junli D.;Rongshan C.;Ruixuan C.;Wei K.;Hao S.,**Disentangling Local and Global Information for Light Field Depth Estimation**, Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops (CVPR-W), 2023. [Published]

ABILITIES & HONORS

Programming Skilled in **Python, C++**.
- 2021 **Silver Medal** of China Collegiate Programming Contest for Girls **(CCPC)**, ACM-CCPC Committee.
- 2021 Second Price of LanQiaoBei Programming Competition, China Software Industry Association.

Mathematics Good Mathematical Fundation.
- 2021 Third Price of National College Mathematics Competition, Chinese Mathematical Association.
- 2020 Second Price of Asia and Pacific Mathematical Contest in Modeling, APMCM Committee.

General Honors
- **2021 National Scholarship for Undergraduates**, Ministry of Education of the People's Republic of China. **(the Top Honor for Chinese Undergraduate students)**
- 2019-2022 Merit Student, Communication University of China.
- 2020 Second Prize of Undergraduate Student Scholarship, Communication University of China.

WORK EXPERIENCE

@ Internship in PSYAI Company[1]
2022.12 – Present *Algorithm Researcher*
- Algorithm pre-research: **study the clothed human Digitization from a single human image** using implicit fields.
- Provide the principal ideas to design an implicit distribution field (D-IF), which predicts **point-wise distribution** to **maintain the uncertainty of human clothed** and improves the accuracy of the human mesh.
- Human body Uncertainty Learning. The uncertainty of each part of the human body is visualized by comparing the gap between predicted occupancy and gt occupancy.
- Finish main **Python** codes for D-IF based on ICON and test on CAPE dataset as well as in-the-wild scenes.
- Hold an ICCV article accepted by ICCV 2023 and a patent in process.

@ **State Key Laboratory of Software Development Environment (No.SKLSDE-2021ZX-03), Beihang University.**

2022.06 – 2023.03 *Researcher*
– **Design a new solution for center view depth estimation of Light Field images**, by constructing the disparity space using an iterative query approach similar to binary search.
– Optimize and redevelop the depth estimation method from LFattNet[2] based on Cost Volume.
– Gain the ability to train neural networks based on improvement ideas and test the effectiveness of the proposed methods.

@ **Research and Development of Cloud Performing Arts Common Service Platform, National Key R&D Program of China (No. 2021YFF0900701).**

2021.12 – 2022.06 *Researcher*
– Research topic: NeRF-based Multi-view Depth Estimation Methods.
– Learning a **distribution-based combination of monocular depth information and multi-view depth estimation**.
– Participate in researches and products development about traditional 3D reconstruction methods (based on COLMAP, OpenMVS+OpenMVG) and deep-learning reconstruction methods (based on NerfingMVS).

@ **State Key Laboratory of Intelligent Media, Communication University of China.**

2023.04 – Present Leading member
– **Provide principal ideas of implementing audio-driven digital human speaking using wav2lip+codeformer framework, based on multiple failed attempts (like Emotalk+FOMM, fintune StyleHeat, ect).**
– Using CV-CUDA[3] to accelerate the image processing of Codeformer (corrosive, Gaussian filtering, affine transformation, etc.) instead of opencv in the original open source code[4].
– Redevelop the algorithms in assembly line to realize real-time processing.

@ **ACM Programming Competition team, Communication University of China.**

2020.03 – 2022.03 Member
– Participate in weekly programming competition training using C++ and achieve good results[5].
– Participated in the 2021 ACM-CCPC programming competition and won the silver medal.