Weiyu Li

✉ weiyuli.cn@gmail.com   ⌂ weiyuli.xyz   ○ https://github.com/wyysf-98

Education

Interdisciplinary Research Center, Shandong University (IRC, SDU)   **Sept. 2020 – Present**
M.Sc. *in Computer Science and Technology. Supervised by: Prof.Baoquan Chen*

Shandong University (SDU)   **Sept. 2016 – Jun. 2020**
Honors B.Eng. *in Software Engineering. Grade: 89.32/100 (overall ranked 4 out of 111)*

Experience

Tencent AI-Lab   **Nov. 2021 – Present**
Research intern, working on character motion generation.   *Shenzhen, China*

Visual Computing and Learning Lab, Peking University   **Aug. 2021 – Nov. 2021**
Visiting student, worked on 3D neural scene generation.   *Beijing, China*

AICFVE, Beijing Film Academy   **Jan. 2021 – Jun. 2021**
Intern(remote), worked on building digital human.   *Qingdao, China*

Publications

[1] Example-based Motion Synthesis via Generative Motion Matching
Weiyu Li, Xuelin Chen, Peizhuo Li, Olga Sorkine-Hornung, Baoquan Chen
conditional accepted by ACM Transactions on Graphics (SIGGRAPH), 2023

[2] Patch-based 3D Natural Scene Generation from a Single Example
Weiyu Li*, Xuelin Chen*, Jue Wang, Baoquan Chen
Computer Vision and Pattern Recognition (CVPR), 2023

[3] MoCo-Flow: Neural Motion Consensus Flow for Dynamic Humans in Stationary Monocular Cameras
Xuelin Chen, **Weiyu Li**, Daniel Cohen-Or, Niloy J. Mitra, Baoquan Chen
Computer Graphics Forum (Eurographics), 2022

Selected Projects

Research Interests: 3D Content Generation, Point Cloud Processing, Efficient Computer Vision, HCI with AR, etc.

Dynamic Digital Humans Reconstruction | *(accepted by EG2022)*
- By using a video captured by a mobile phone, we build dynamic digital humans and support free-viewpoint rendering.
- Based on Neural Radiance Fields for high-quality rendering, we proposed a general and carefully designed optimization scheme, which includes a dedicated initialization step and a consensus regularization to constrain the motion flow.

Character Motion Generation from Limited Motion Clips | *(accepted by SIGGRAPH2023)*
- Generating diverse novel motions of arbitrary characters without the need for training or a large amount of data.
- Inspired by Motion Matching, we proposed an efficient skeleton-agnostic motion generation algorithm, which can solve the performance degradation problem when the characters' joints are complex.

3D Natural Scene Generation Using A Single Exemplar | *(accepted by CVPR2023)*
- Generating novel scenes with fine geometric structure and photo-realistic appearance from a single exemplar.
- We proposed a patch-based framework to generate diverse 3D natural scenes only using a single exemplar. Heterogeneous representations are used to keep the view-dependent effect, such as the reflection, shadow, etc.

Selected Awards & Honors

- Two Special Prizes in RPA Parallel Computing Competition of Chinese Academy of Sciences ($30, 000 bonus)
- The First Prize in the 12th Intel Cup Undergraduate Software Innovation Competition ($2, 200 bonus)
- Two Second Prizes in Asian Student Supercomputer Challenge (ASC 2018 and 2019)
- The Second Prize in China Undergraduate Mathematical Contest in Modeling
- The First scholarship in Shandong University (Three times)

Technical Skills

Programming Languages: Python, C++/C#, HTML/CSS, Java, JavaScript, SQL, LaTeX
Developer Tools: Pytorch, Tensorflow, OpenCV, Blender, three.js, node.js