Junming Chen

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EDUCATION

Northeastern University   Shenyang, China
Bachelor in Software Engineering   2020-2024
- GPA: 92/100

University of California, San Diego   San Diego, USA
Visiting student in Computer Science & Engineering   Spring 2023
- GPA: 4.0/4.0
- Selected Courses: Computer Graphics II (A+), Machine Learning (A+)

RESEARCH EXPERIENCE

Université Laval   Québec City, Canada
Research Assistant, Supervisor: Prof. Jean-François Lalonde   07/2023-Present

Project: Learning High Dynamic Range NeRF from Dual Cameras
- Proposed a Neural Radiance Field (NeRF) based framework to reconstruct the 3D spatially-varying High Dynamic Range (HDR) lighting for any scene.
- Utilize a combined camera pair to capture different ranges of lighting rapidly in an easy way. Extrapolate these two Low Dynamic Range (LDR) lighting to HDR NeRF.
- Design a practical and realistic rendering pipeline for object insertions in our HDR NeRF, which both lits the objects perfectly and casts reasonable shadows that interact with the scene.

University of California, San Diego   San Diego, USA
Undergraduate Student Researcher, Supervisor: Prof. Manmohan Chandraker   04/2023-07/2023

Project: Creating 3D Virtual Dataset for Indoor Scenes
- Present a new iterative approach for completing mesh's 3D part segment with only an interactive 2D prompt point, which is useful for photorealistic material reconstruction on segmented parts.
- Enrich large-scale 3D shape datasets with detailed part information by applying our automated pipeline.

University of Alberta   Edmonton, Canada
Remote Intern, Supervisor: Prof. Li Cheng   09/2022-12/2022

Project: 3D Object Rigging from a Single Image
- Assisted in building a pipeline of 3D reconstruction and skeleton prediction with neural implicit functions.
- Contrastive learning to pre-train a neural network for extracting canonical features from multiple viewpoints of 3D models, which aids in obtaining robust reconstruction results.

Northeastern University   Shenyang, China
Research Assistant, Supervisor: Prof. Guibing Guo   03/2022-07/2022

Project: Short Video Recommendation System
- Compare different learning-based methods for predicting users' behavior based on multi-modal features.
- Feature Engineering. Extract the high-level visual features, like the number of faces, to enhance our model.

PROJECTS & COMPETITION

Github

Project: PyTorch Model transplant (collaborate with Huawei Corporation)   03/2022
- Successfully contributed the Huawei NPU version implementation of a PyTorch-based model named SPACH, to the official repository, including training and inference scripts.

Kaggle
- Kaggle Notebooks Expert; Ranking: top 1% (worldwide)

SKILLS

Programming: Python (PyTorch, NumPy, Pandas, OpenCV, Blender), Java, C++ (OpenGL), Git, Shell