



Xi'an Jiaotong University

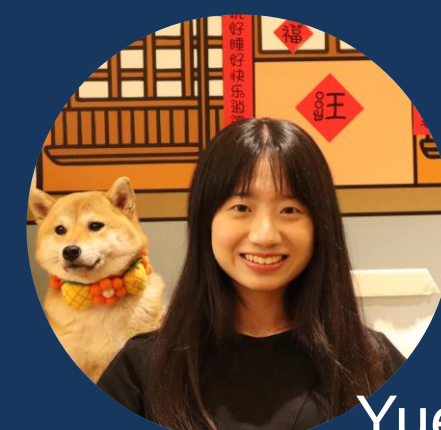


Ant Group



Tencent AI Lab

UV Volumes for Real-time Rendering of Editable Free-view Human Performance



Yue Chen



Xuan Wang



Xingyu Chen



Qi Zhang



Xiaoyu Li



Yu Guo



Jue Wang



Fei Wang

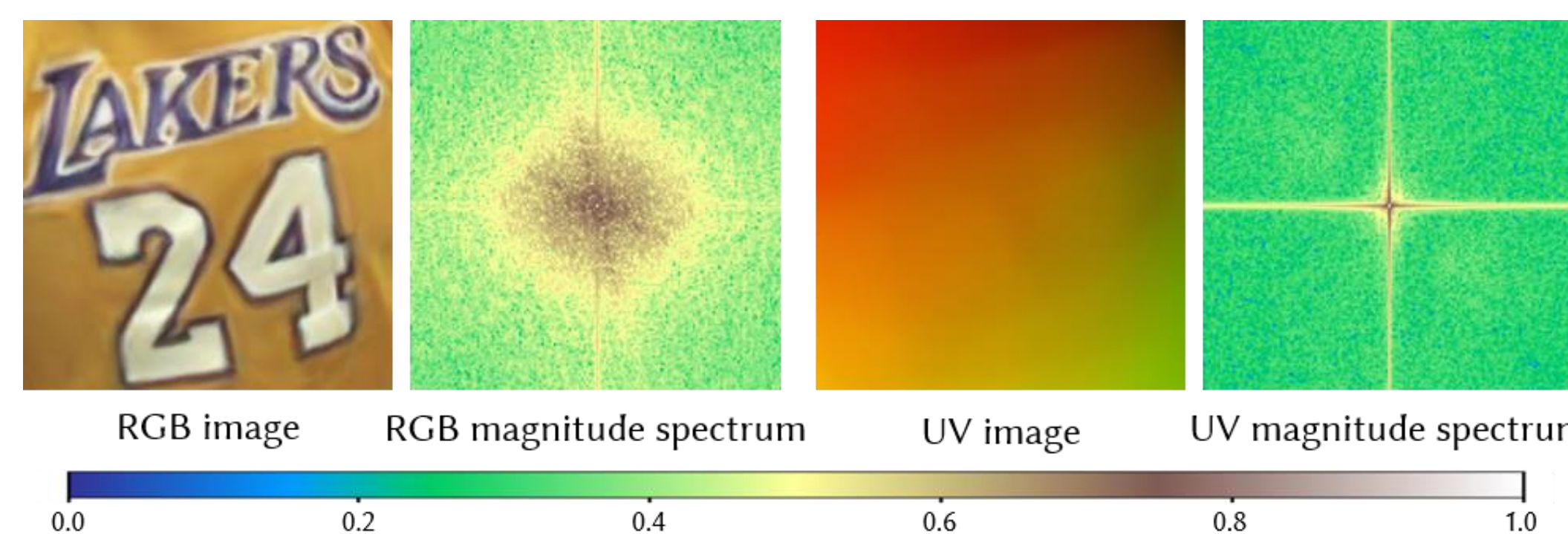
JUNE 18-22, 2023

CVPR



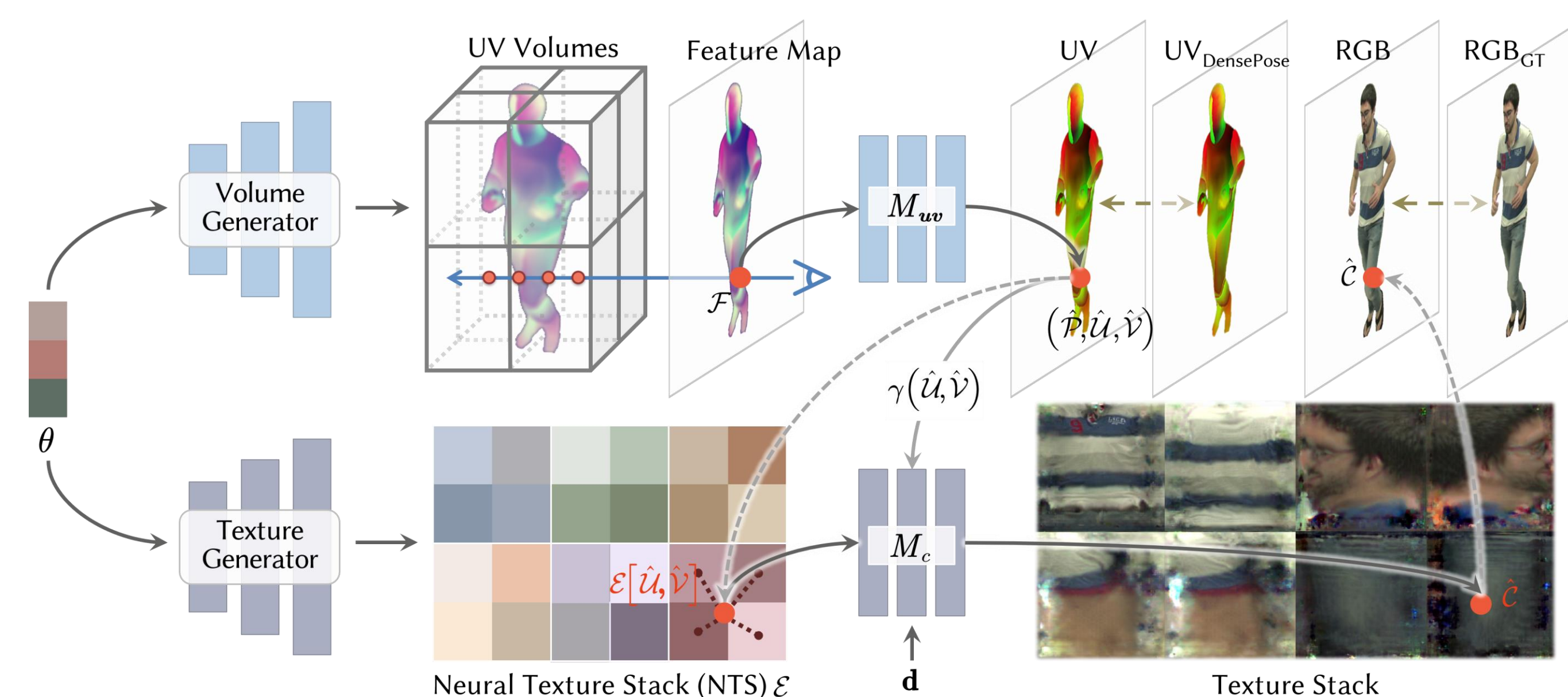
VANCOUVER, CANADA

Motivation



- ✓ Modelling low-frequency UV in 3D
- ✓ Detailing high-frequency RGB in 2D
- ✓ Achieving real-time rendering and texture editing

Our Method






Decompose a dynamic human into 3D UV Volumes and a 2D texture

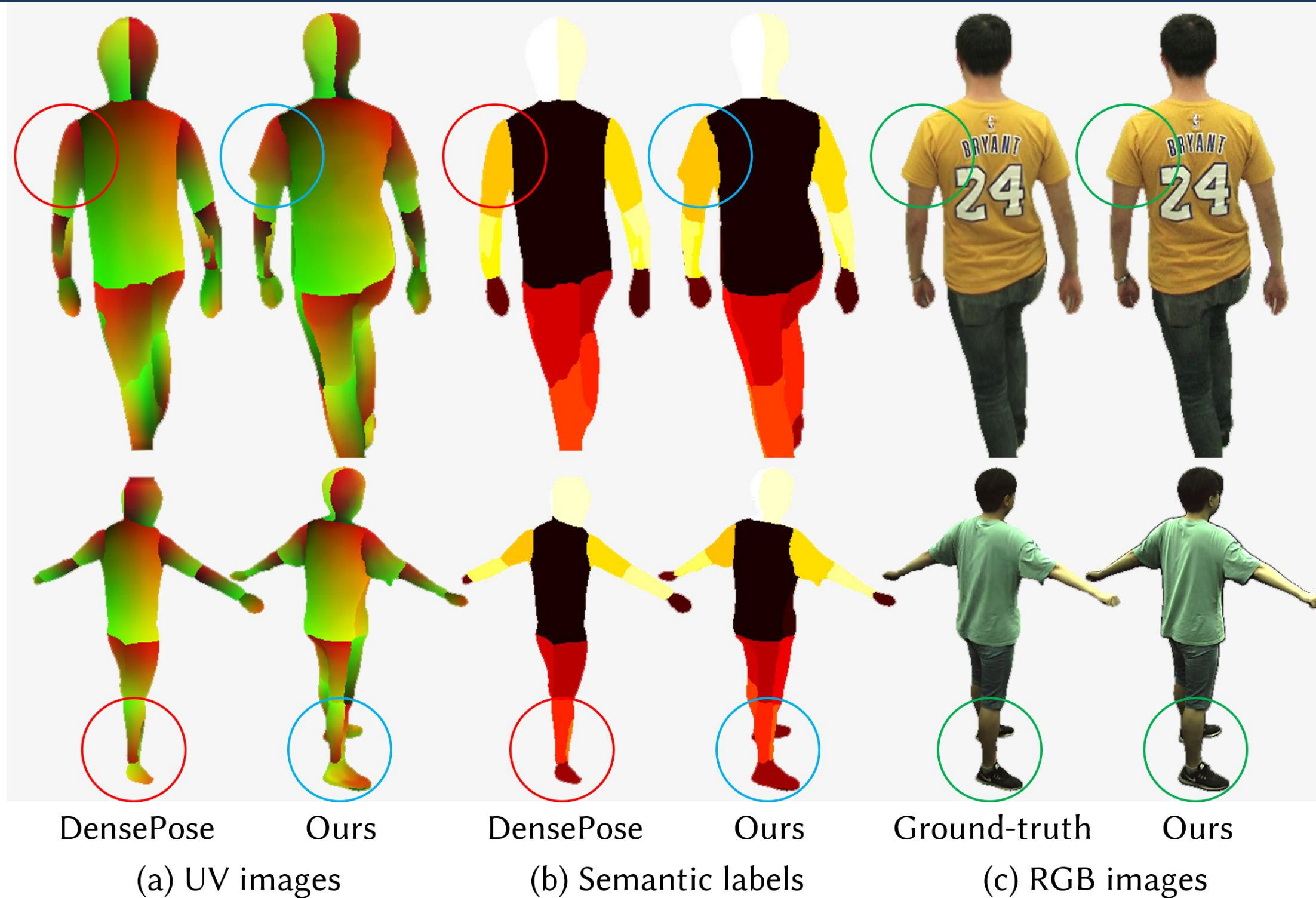
- **3D UV branch:** render a ray in UV volumes to get a UV coordinate
- **2D Texture branch:** query Neural Texture Stack to predict RGB

Texture Editing



UV Supervision

Given *noisy UV and semantic labels* , we can recover *proper UV volumes*  under *photometric constraints* .



Dynamic Novel View Synthesis

