

GUANGDONG AND HONG KONG UNIVERSITIES

“1+1+1” Joint Research Collaboration Scheme
粵港高校「1+1+1」聯合資助計劃



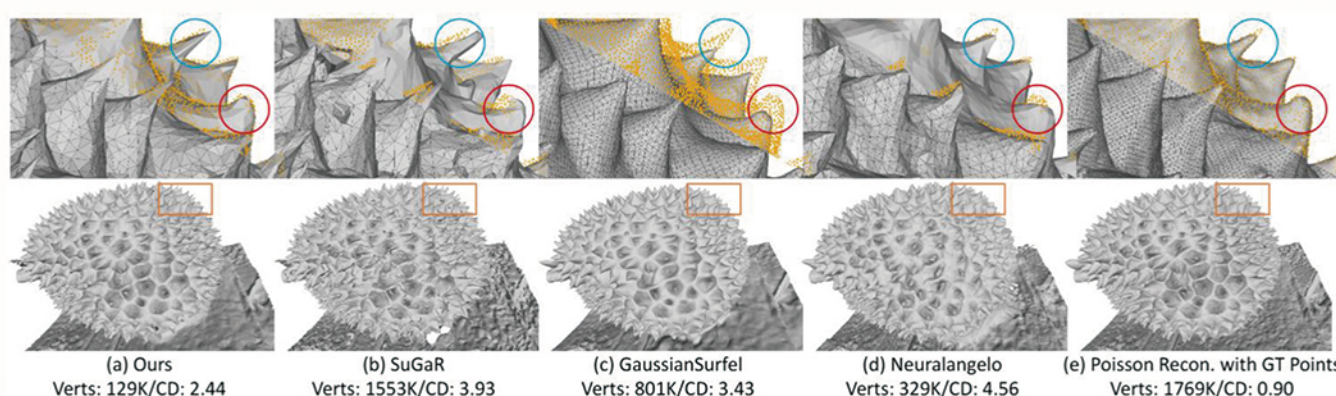
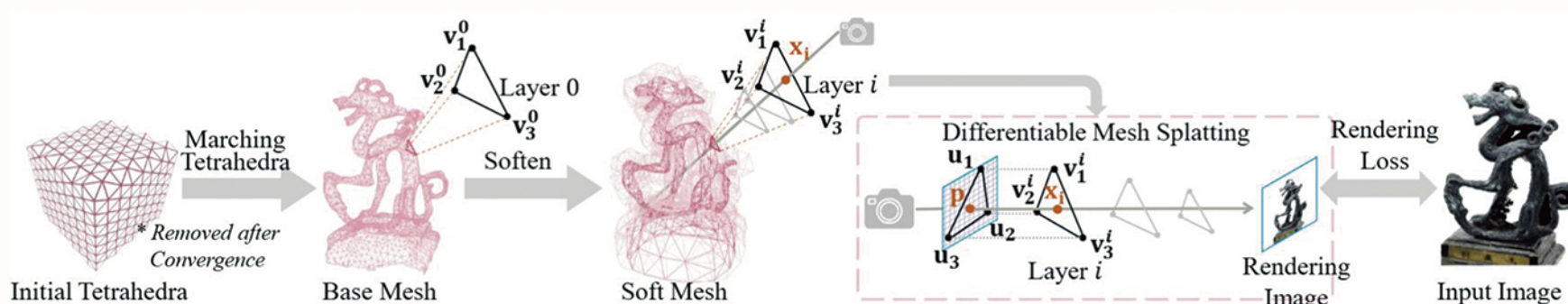
高精度三维数字资产采集系统、与重建生成算法研发以及在新闻与艺术科技场景的应用



陈杰副教授 (HKBU PI), 张慧教授 (BNBU PI)

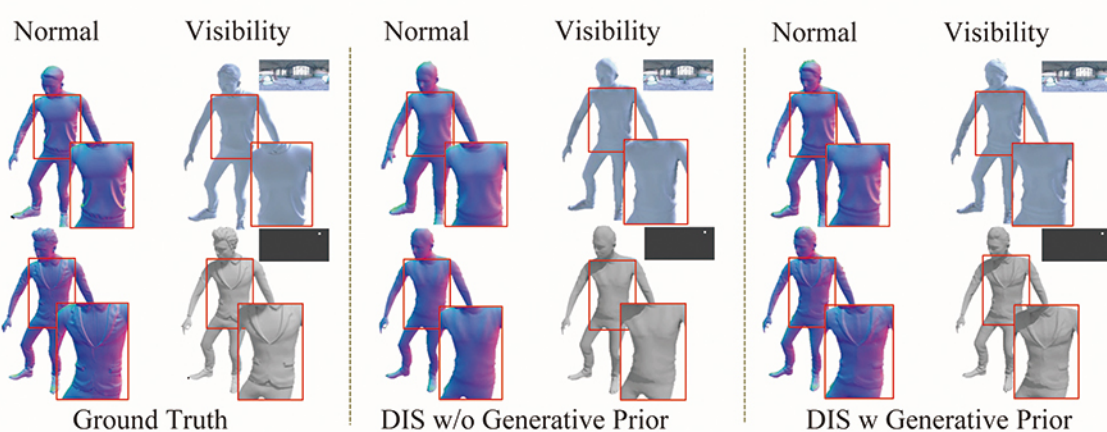
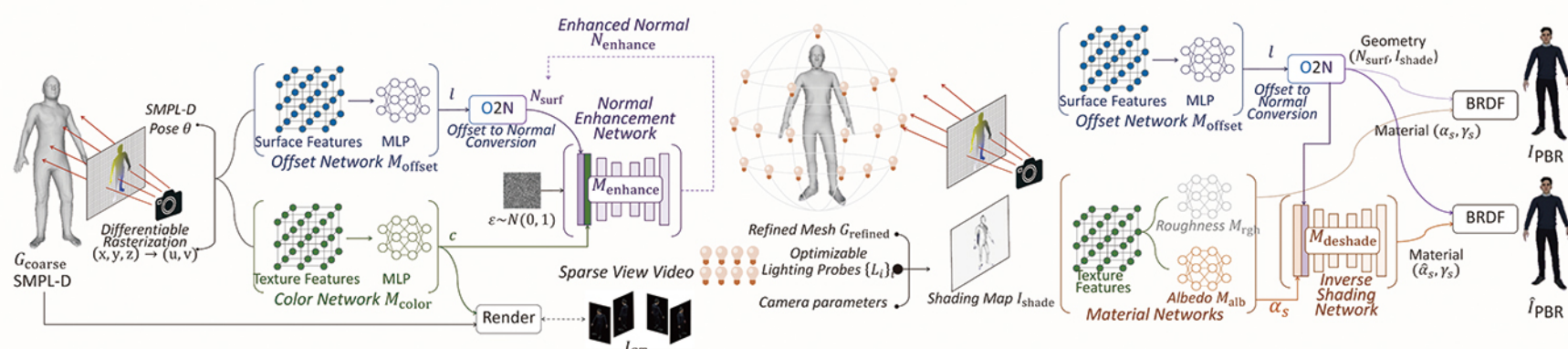
高精度三维数字资产采集系统: 首创网格喷溅算法 MeshSplatting (ICLR 2026 [1])

- 目的: 建立网格模型与多视角图像的可微分映射关系, 降低三维重建中间步骤的精度损耗
- 方法: 将网格硬表面转化为软表面, 拓展网格的空间感受野, 结合体渲染实现端到端优化
- 结果: 实现高精度、优拓扑三维数字资产的自动化创建



欠定条件下的数字人生成式重建: 深度逆着色系统 DIS (AAAI 2026 [2])

- 目的: 稀疏观测视角下, 利用生成先验辅助数字人创建
- 方法: 通过生成式模型将颜色信息扩充为含几何语义的法线信息, 提升几何创建的准确性
- 结果: 稀疏视角拍摄数据可生成更高质量几何纹理的数字人



* Corresponding Author

[1] Ruiqi Zhang, Jiacheng Wu, Jie Chen*, “Mesh Splatting for End-to-end Multiview Surface Reconstruction,” accepted by *International Conference on Learning Representations (ICLR)*, 2026
 [2] Jiacheng Wu, Ruiqi Zhang, Jie Chen*, “Deep Inverse Shading: Consistent Albedo and Surface Detail Recovery via Generative Refinement”, in *Proc. AAAI*, 2026

