Shanlin Sun

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EDUCATION

University of California, Irvine   Irvine, CA
Ph.D. candidate, Computer Science   *Sep 2020 – Present*

University of Southern California, Los Angeles   Los Angeles, CA
MSc, Electrical Engineering   *Aug 2017 – May 2019*

Beihang University   Beijing, China
BE, Measurement & Control Technology and Instrumentation   *Aug 2013 - May 2017*

WORK EXPERIENCE

NEC Laboratories America, Inc.   San Jose, CA
Research Intern   *July 2023 – Sep 2023*
- Participated in long-horizon closed-loop neural sensor simulator project. With a single recorded log captured by a sensor-equipped vehicle, our simulator can synthesize a realistic closed-loop RGB video. Built upon neural radiance field, Lidar and high-definition map are demonstrated to be useful in extrapolated traffic scene synthesis scenario.

DeepVoxel Inc.   Irvine, CA
Machine Learning Engineer   *Aug 2019 – July 2021*
- Developed deep learning-based organs-at-risk delineation algorithm for more than 50 anatomical structures from whole-body CT scans. Integrate our algorithms into their first FDA-cleared product, which was applied by several medical institutions in radiology treatment planning.

SELECTED PUBLICATIONS

3D Reconstruction & Generation
- **Light Field Diffusion for Single-View Novel View Synthesis.**   arXiv 2024
  *Y Xiong, H Ma, **S Sun**, K Han, H Tang, X Xie.*
- **Delving into Lidar for Neural Radiance Field on Road Scenes.**   CVPR 2024
  ***S Sun**, B Zhuang, Z Jiang, B Liu, X Xie, M Chandraker.*
- **Diffeomorphic Deformation via Sliced Wasserstein Distance Optimization for Cortical Surface Reconstruction.**   ICLR 2024
  *T Le, K Nguyen, **S Sun**, K Han, N Ho, X Xie.*

3D Shape & Image Registration
- **Integrating Efficient Optimal Transport and Functional Maps For Unsupervised Shape Correspondence Learning.**   CVPR 2024
  *T Le, K Nguyen, **S Sun**, N Ho, X Xie.*
- **Diffeomorphic Image Registration With Neural Velocity Field.**   WACV 2023
  K Han, **S Sun***, X Yan, C You, D Kong, H Tang, D Kong, X Xie.*
- **Topology-preserving Shape Reconstruction and Registration via Neural Diffeomorphic Flow.**   CVPR 2022
  ***S Sun**, K Han, D Kong, H Tang, X Yan, X Xie.*

Image Segmentation
- **AFTer-SAM: Adapting SAM with Axial Fusion Transformer for Medical Imaging Segmentation**   WACV 2024
  *X Yan, **S Sun**, K Han, T Le, H Ma, C You, X Xie*
- **AFTer-UNet: Axial Fusion Transformer UNet for Medical Image Segmentation.**   WACV 2022
  *X Yan, H Tang, **S Sun**, H Ma, D Kong, X Xie*
- **Organs at Risk Auto-contouring System and Methods.**   US Patent
  *H Tang, Y Liu, **S Sun**, N Bai*

SELECTED SKILLS

Programming Language: Python (*proficient*) $\geq$ Matlab $\geq$ C $>$ C++ $\geq$ CUDA(*basic*)

DL Framework: Pytorch, Tensorflow, Keras