



Research Statement

Automated

AI/Computer Vision

Driven Generation of

Digital Twins

for Sustainable

Mobility Infrastructure

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Automated

AI/Computer Vision

Driven Generation of

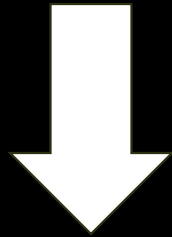
Digital Twins

for Sustainable

Mobility Infrastructure

3D Reconstruction of
Outdoor Unbounded
Environment

3D Reconstruction of Outdoor Unbounded Environment



3D Reconstruction of TRONDHEIM CITY

Recent Work

- OpenStreetMap. (2024). OpenStreetMap. Retrieved September 17, 2024, from <https://www.openstreetmap.org/#map=5/65.40/17.86>
- NVIDIA. (2024). Universal Scene Description (USD). Retrieved September 17, 2024, from <https://www.nvidia.com/en-eu/omniverse/usd/>

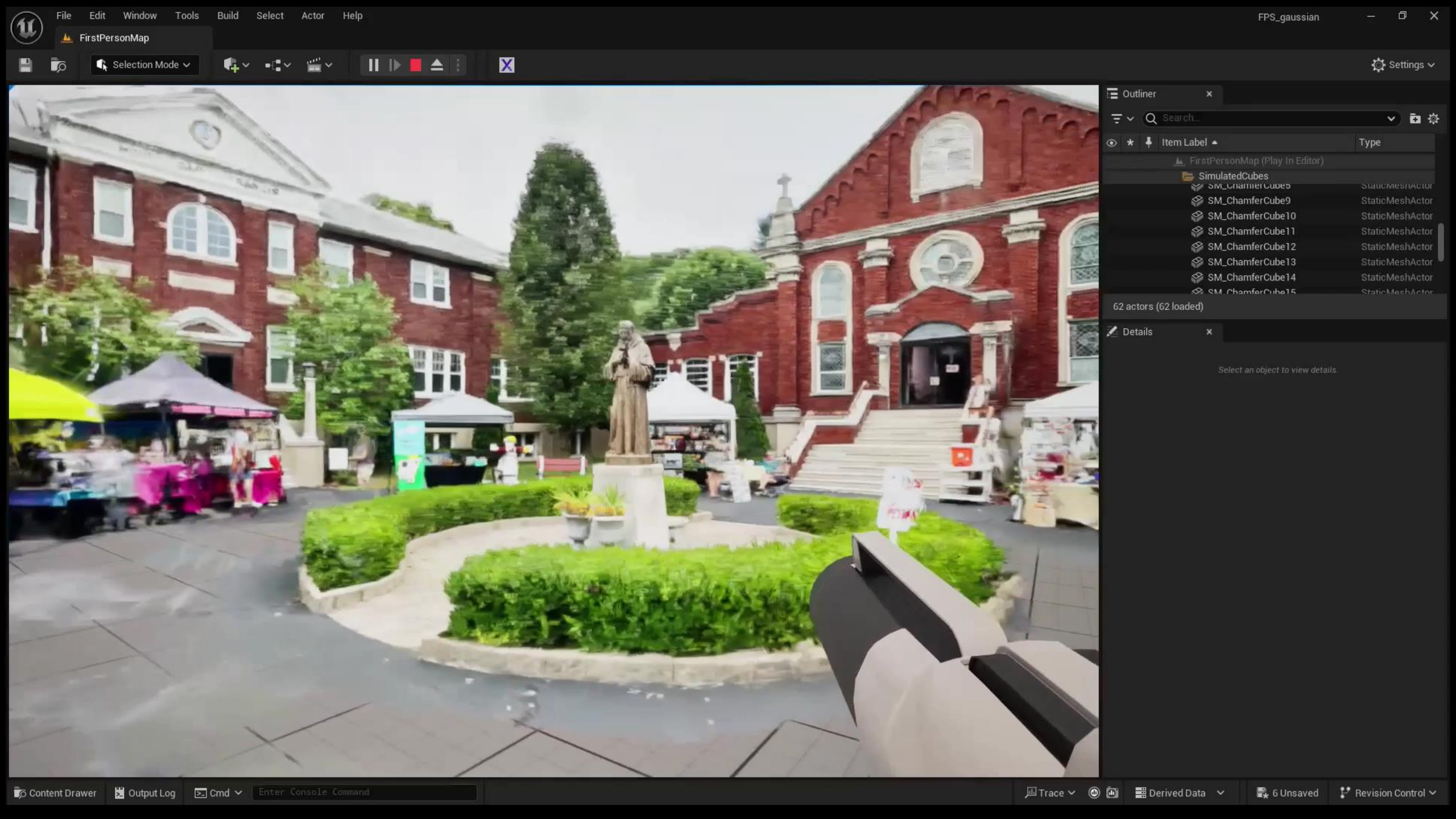
•Mildenhall, B., Srinivasan, P.P., Tancik, M., Barron, J.T., Ramamoorthi, R., & Ng, R. (2020). NeRF: Representing Scenes as Neural Radiance Fields for View Synthesis. In European Conference on Computer Vision (ECCV) 2020.



NTNU - Norwegian University
of Science and Technology

autopilot for everyone





FirstPersonMap

Selection Mode

Settings

Outliner

Search...

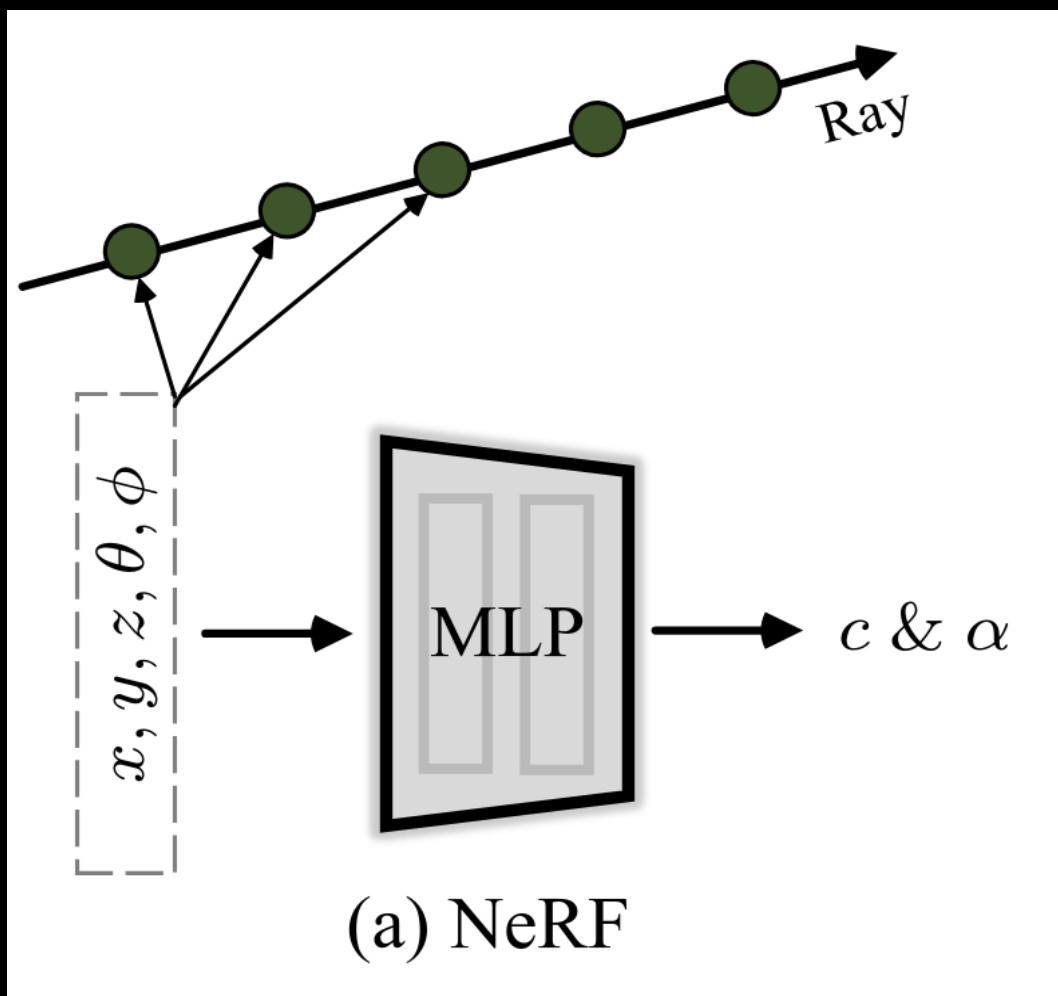
Item Label	Type
FirstPersonMap (Play In Editor)	
SimulatedCubes	
SM_ChamferCube5	StaticMeshActor
SM_ChamferCube9	StaticMeshActor
SM_ChamferCube10	StaticMeshActor
SM_ChamferCube11	StaticMeshActor
SM_ChamferCube12	StaticMeshActor
SM_ChamferCube13	StaticMeshActor
SM_ChamferCube14	StaticMeshActor
SM_ChamferCube15	StaticMeshActor

62 actors (62 loaded)

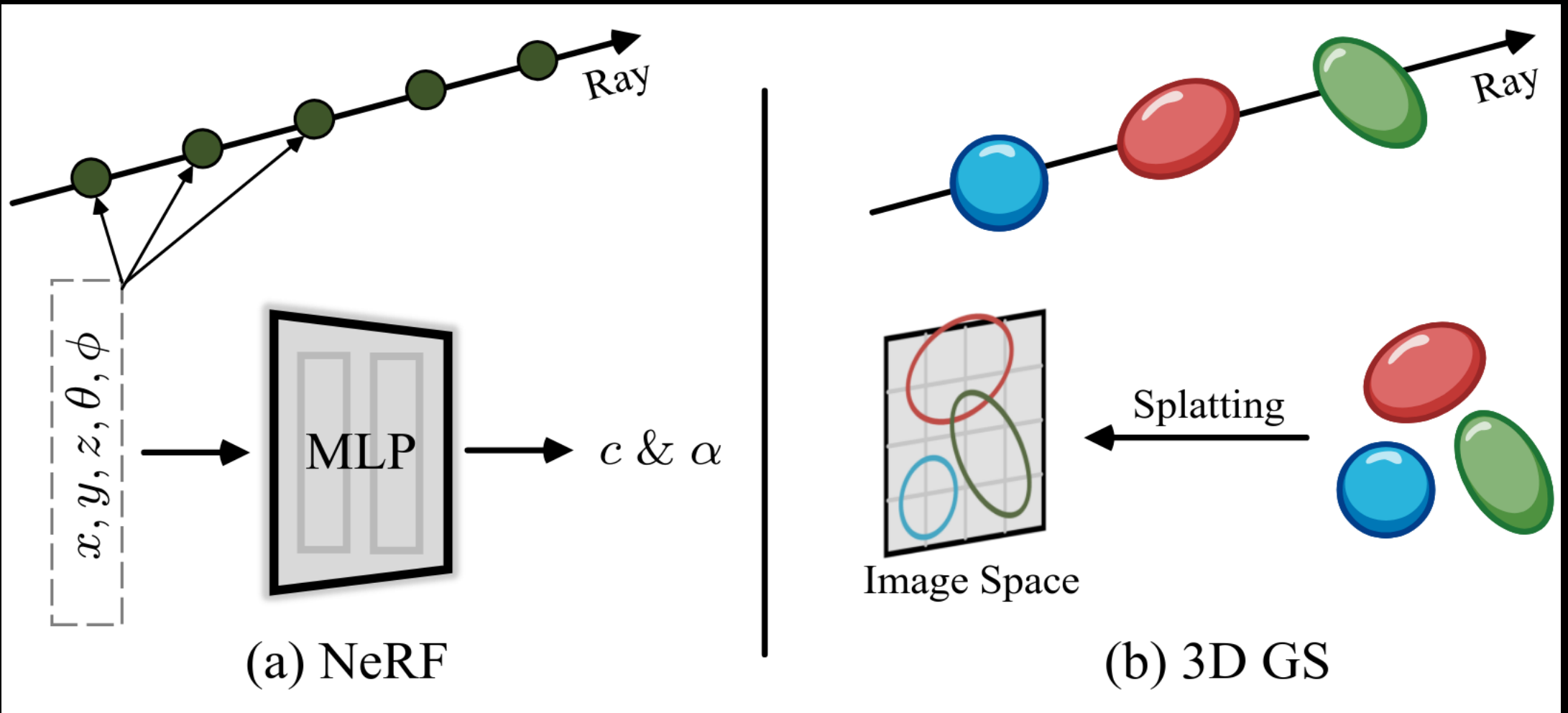
Details

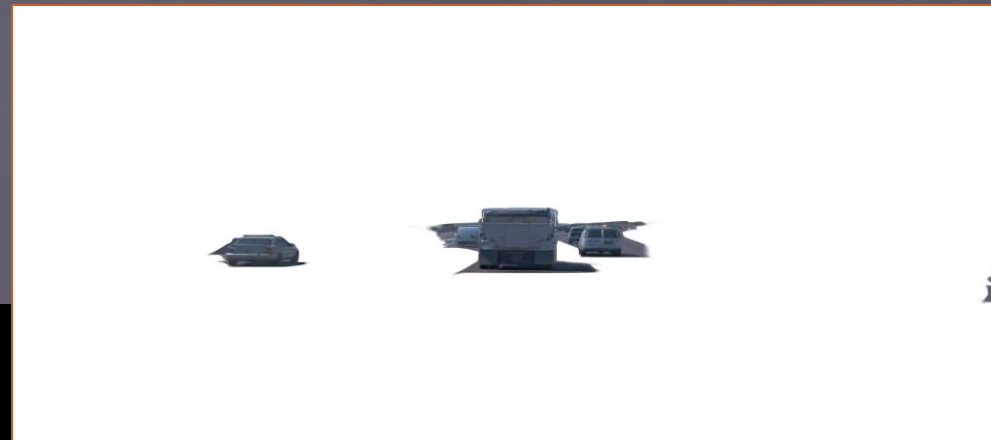
Select an object to view details.

Currently ...



Future Perspective





Conferences

- June'24 : Net-Zero Future 2024 Conference
- Feb'25 : WACV 2025, Round1

Thanks!

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