

# Online Mapping for Autonomous Driving

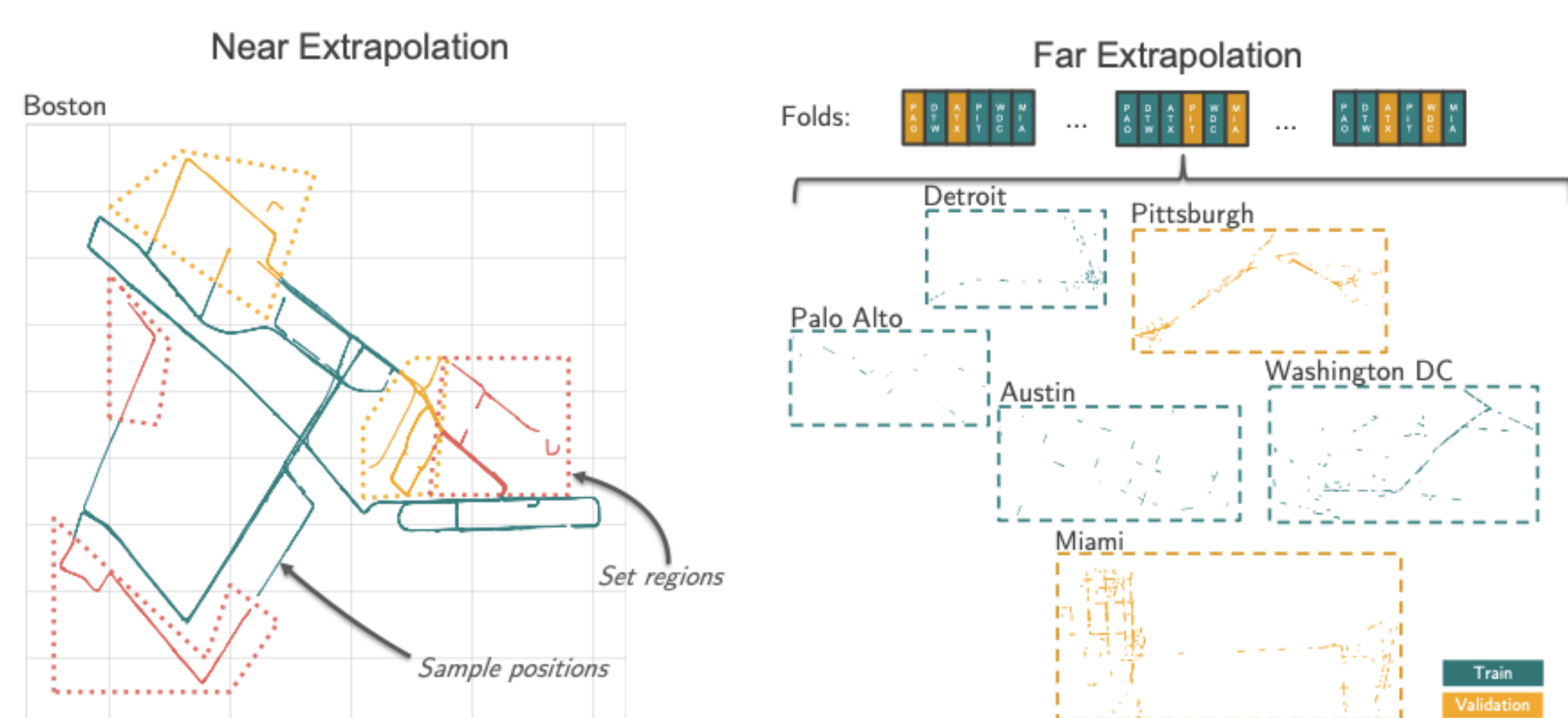
Adam Lilja

## Localization Is All You Evaluate: Data Leakage in Online Mapping Datasets and How to Fix It

Data leakage in online mapping datasets

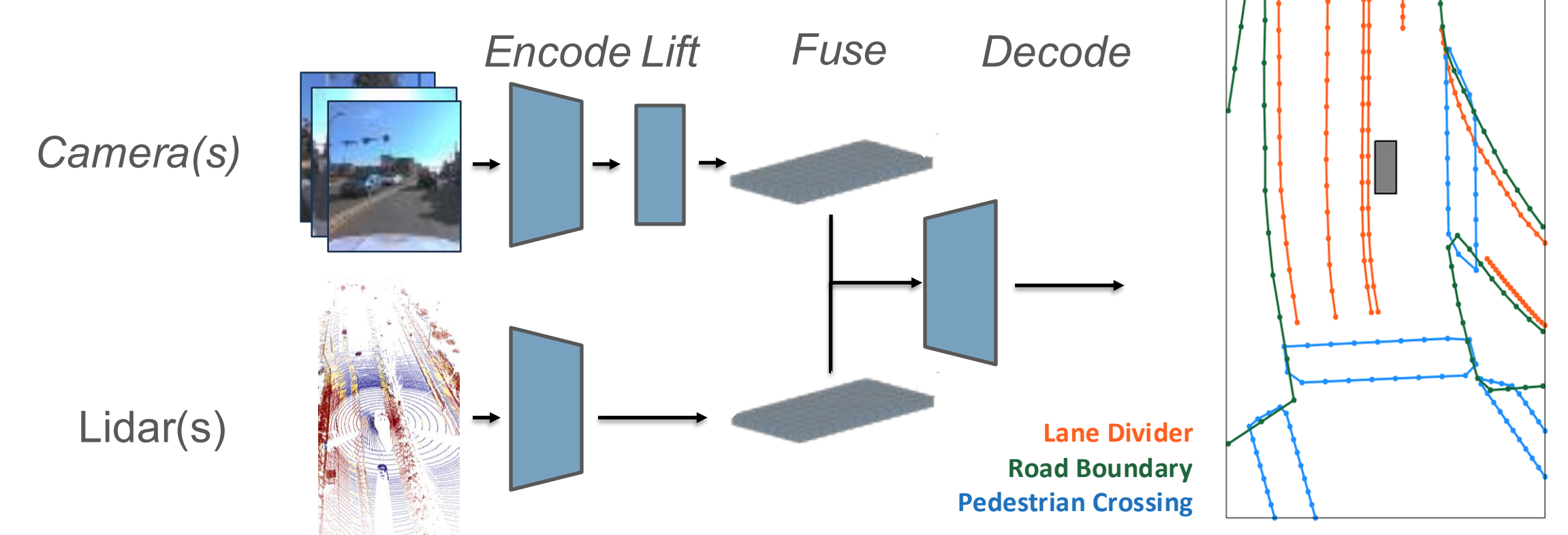


Split data geographically

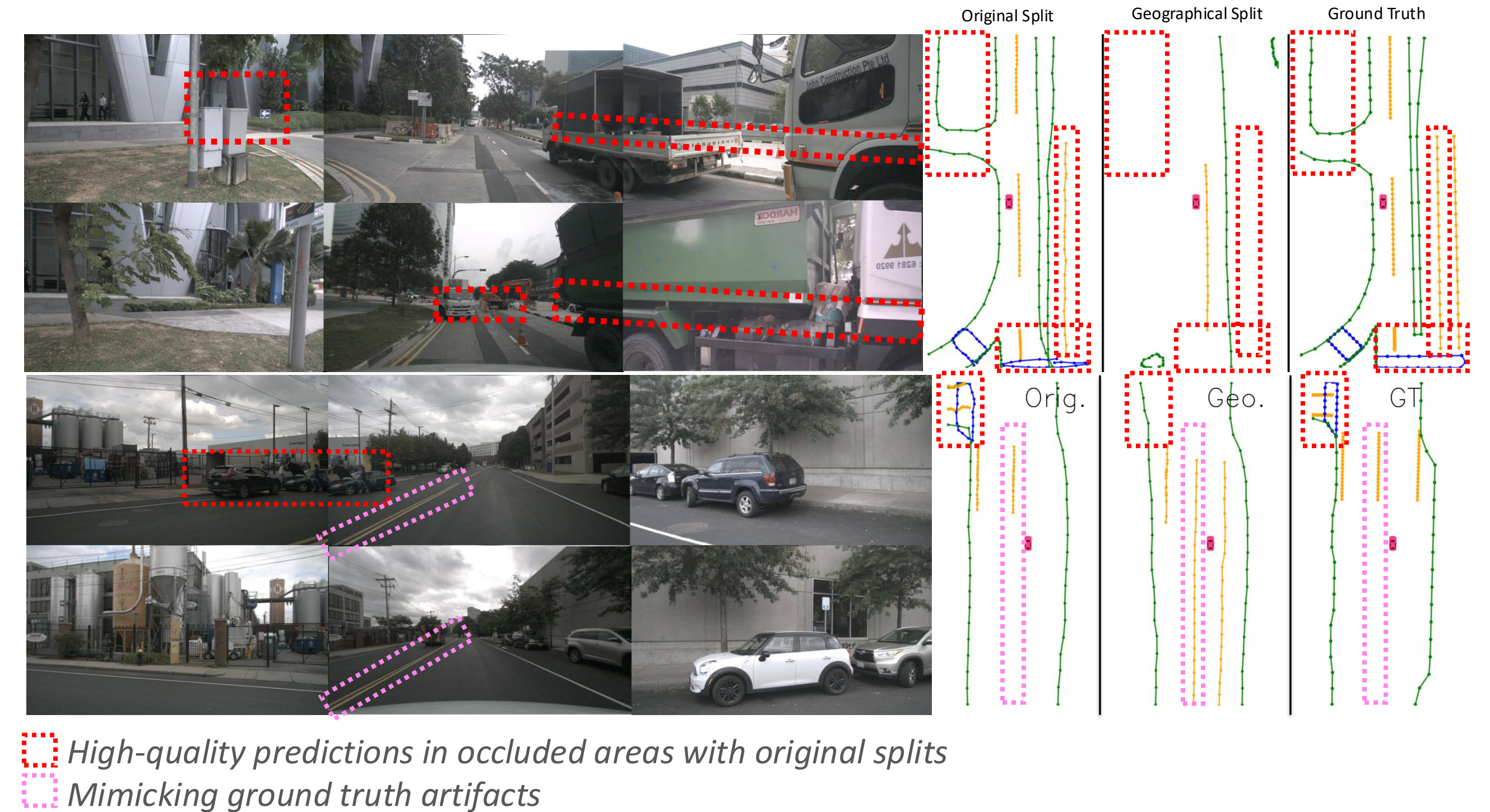


## Online Mapping

- ★ Understanding road geometry is fundamental for driving
- ★ Can not solely rely on high-definition maps
- ★ Predict a local map using onboard sensors

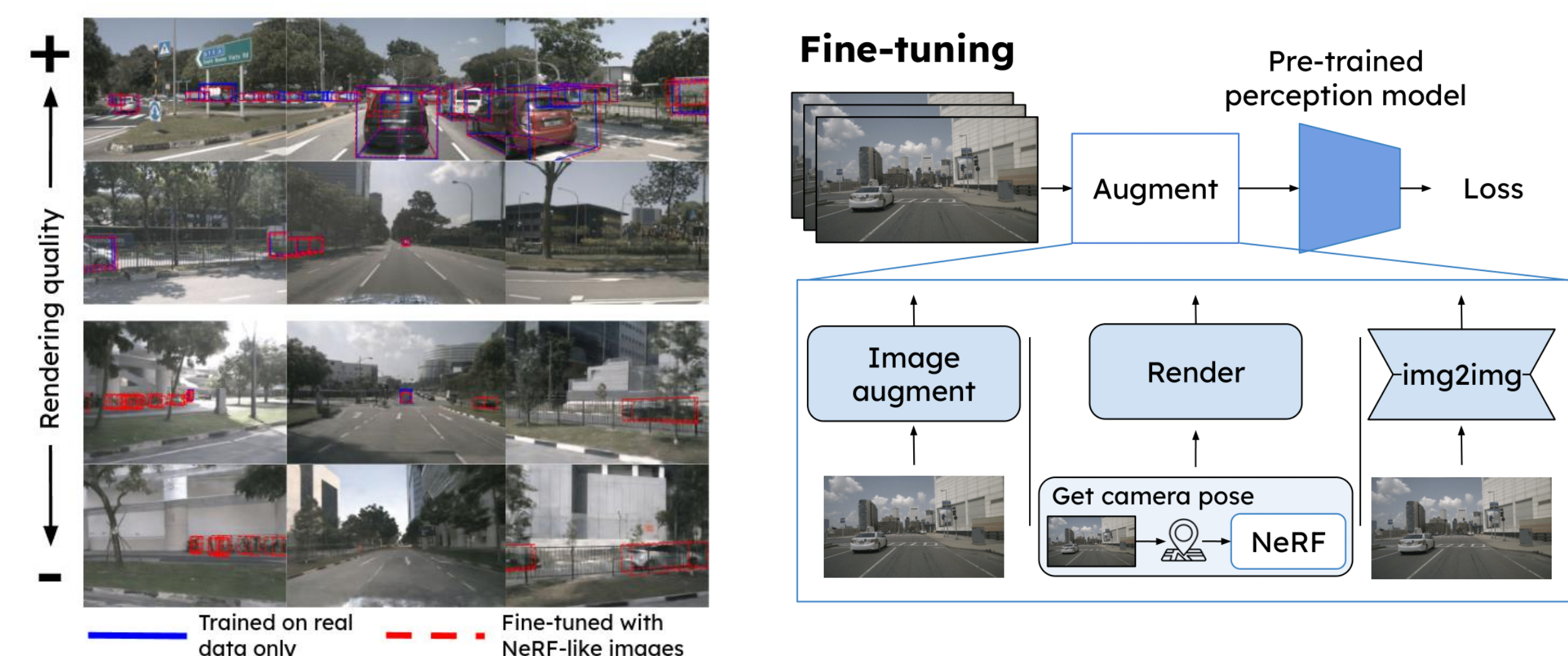


Evaluate what matters

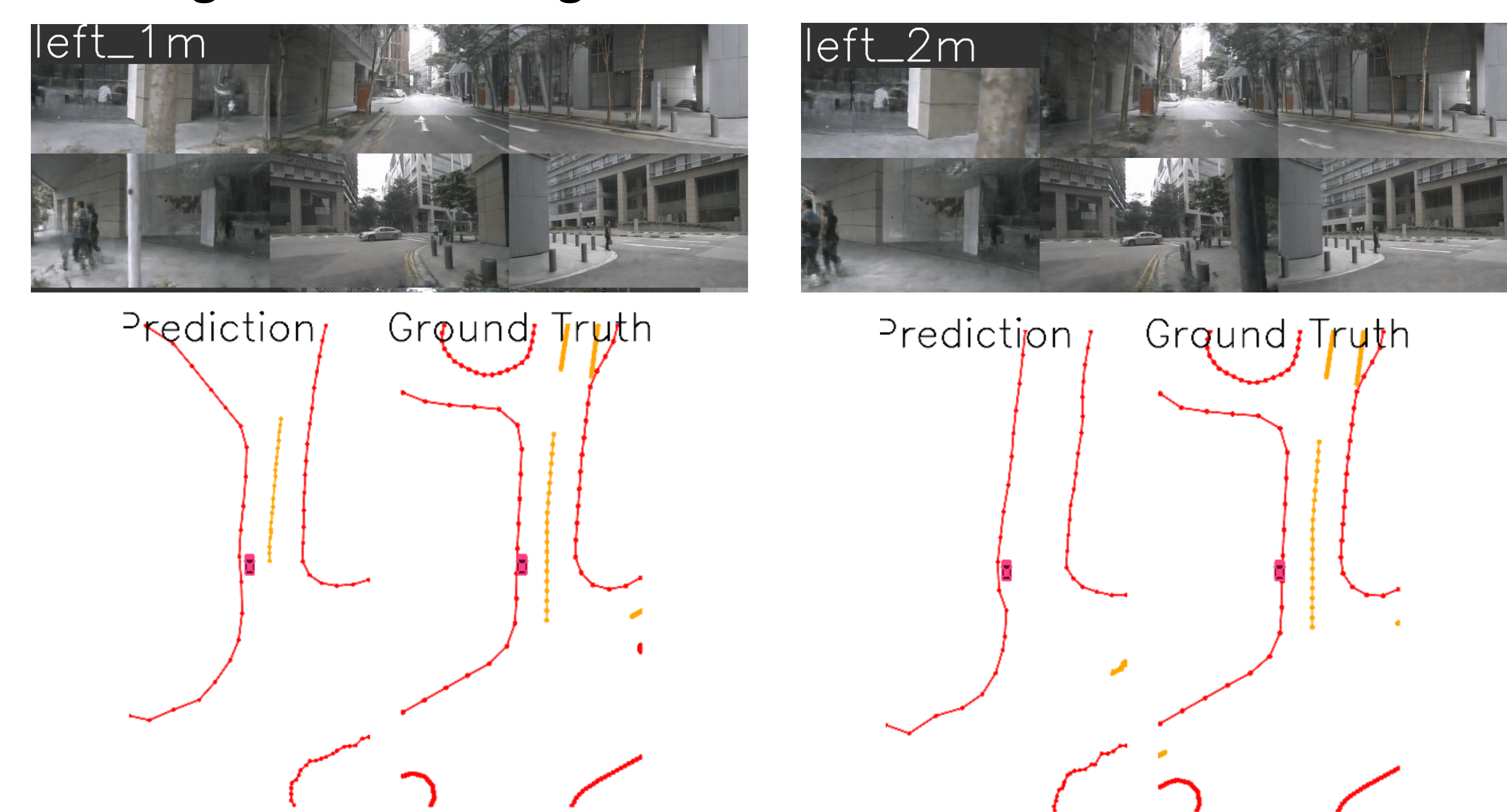


## Are NeRFs ready for autonomous driving? Towards closing the real-to-simulation gap

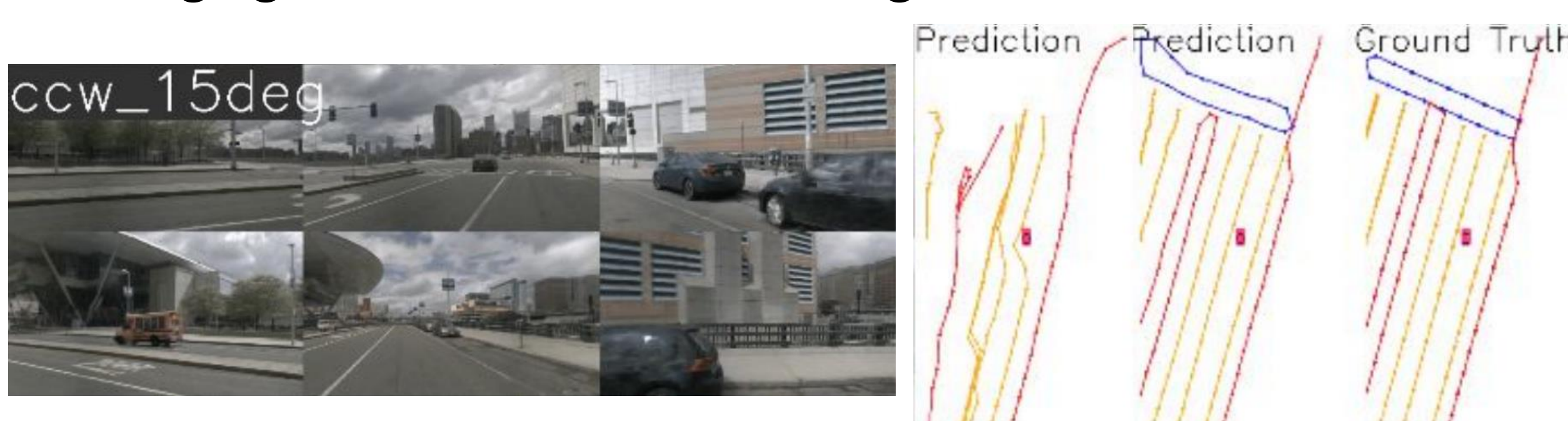
Study of real-to-simulation gap, and methods for addressing it



Simulating and evaluating rare scenarios can reveal learned biases

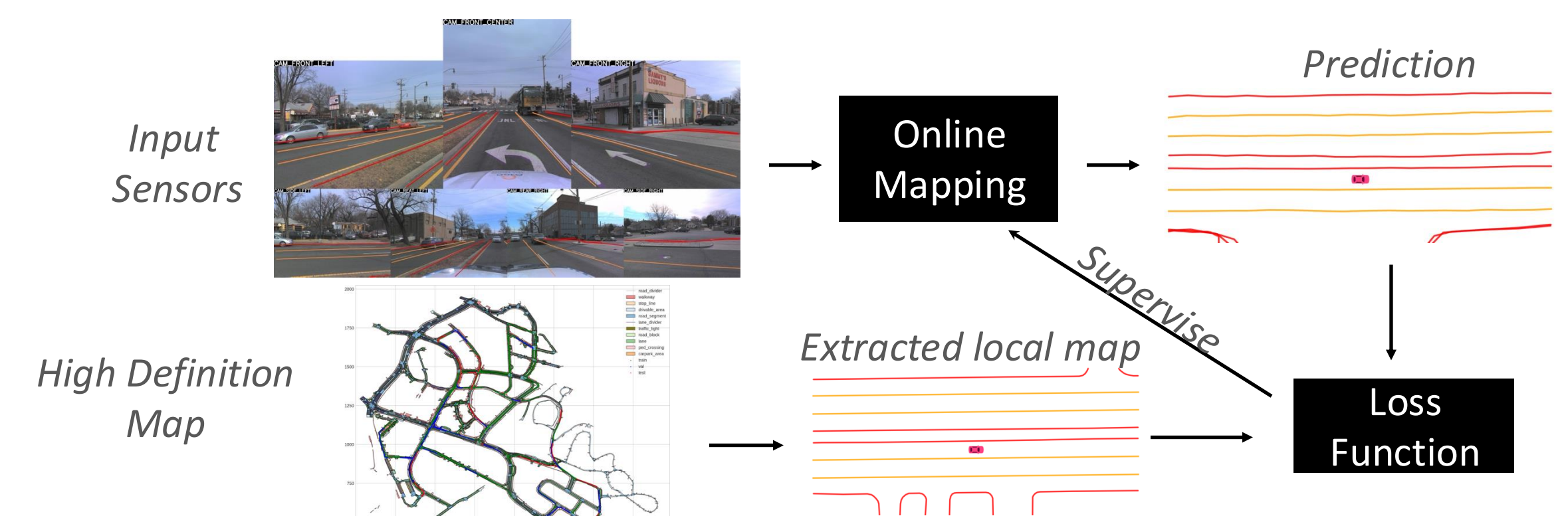


Leveraging simulated data in training increases the robustness

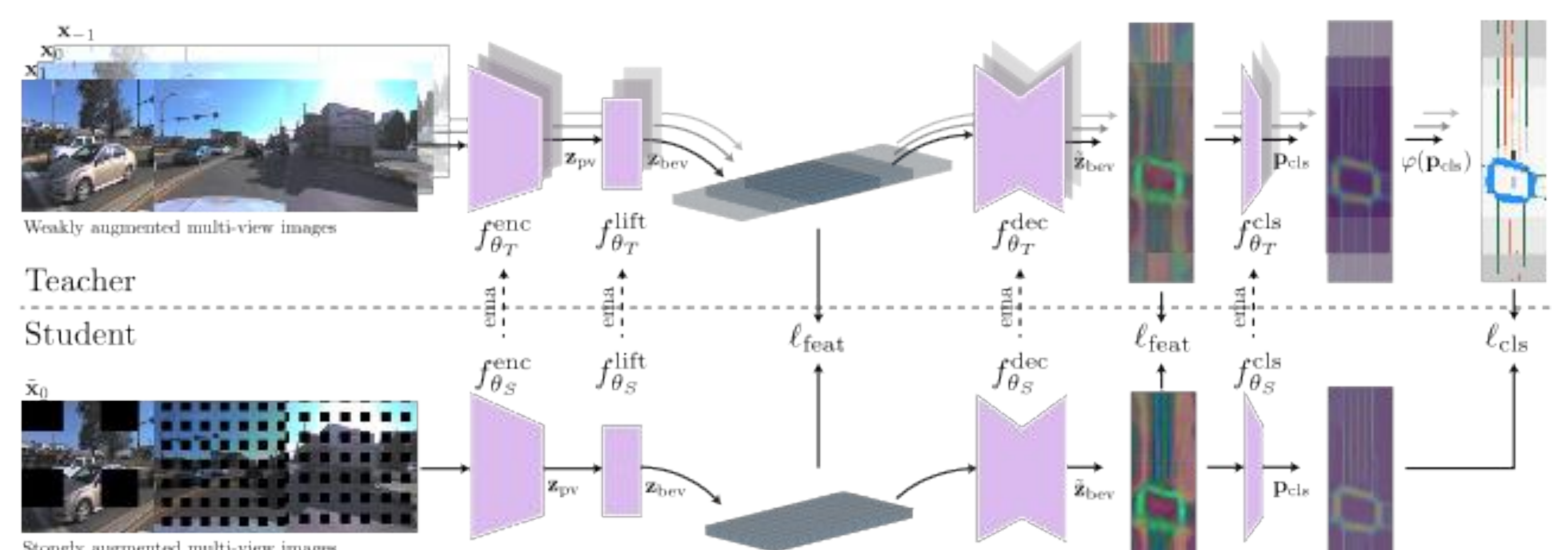


## Exploring Semi-Supervised Learning for Online Mapping

Training online mapping methods requires expensive labelled data

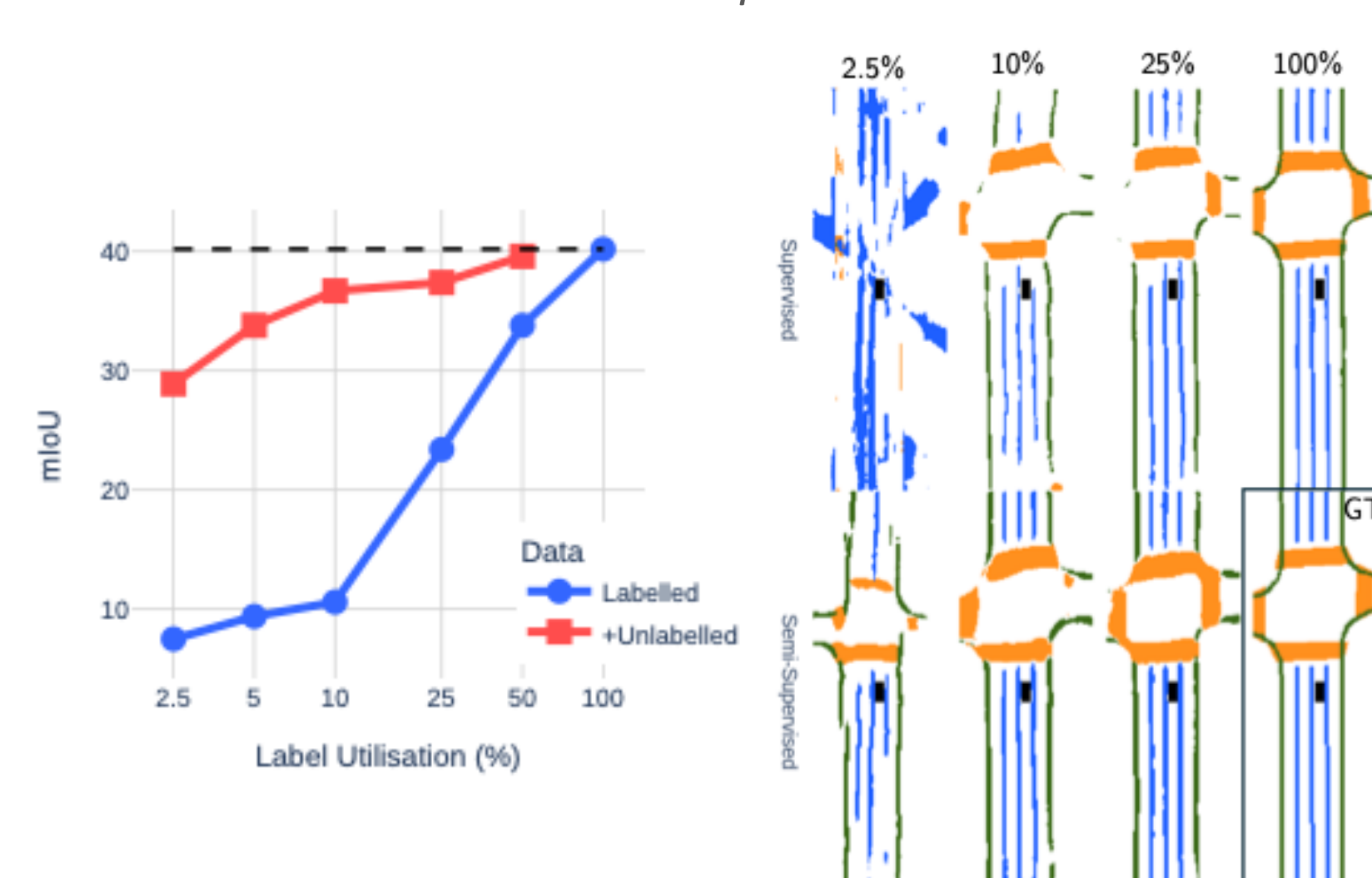


Semi-supervised learning to leverage unlabelled data



Improves performance using limited labelled data

Near Extrapolation



Far Extrapolation

