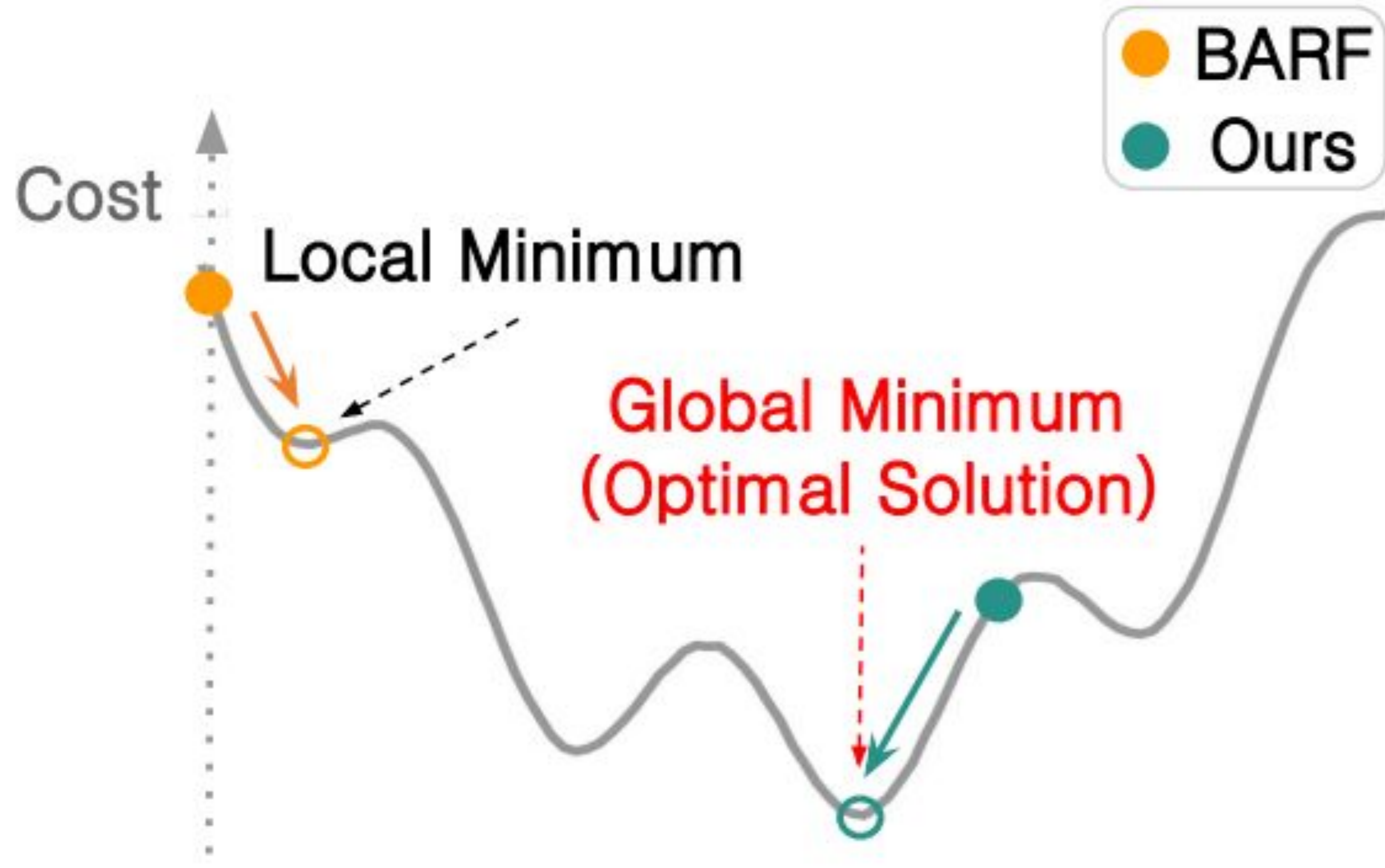


# Visual-Inertial Odometry Priors for Bundle-Adjusting Neural Radiance Fields

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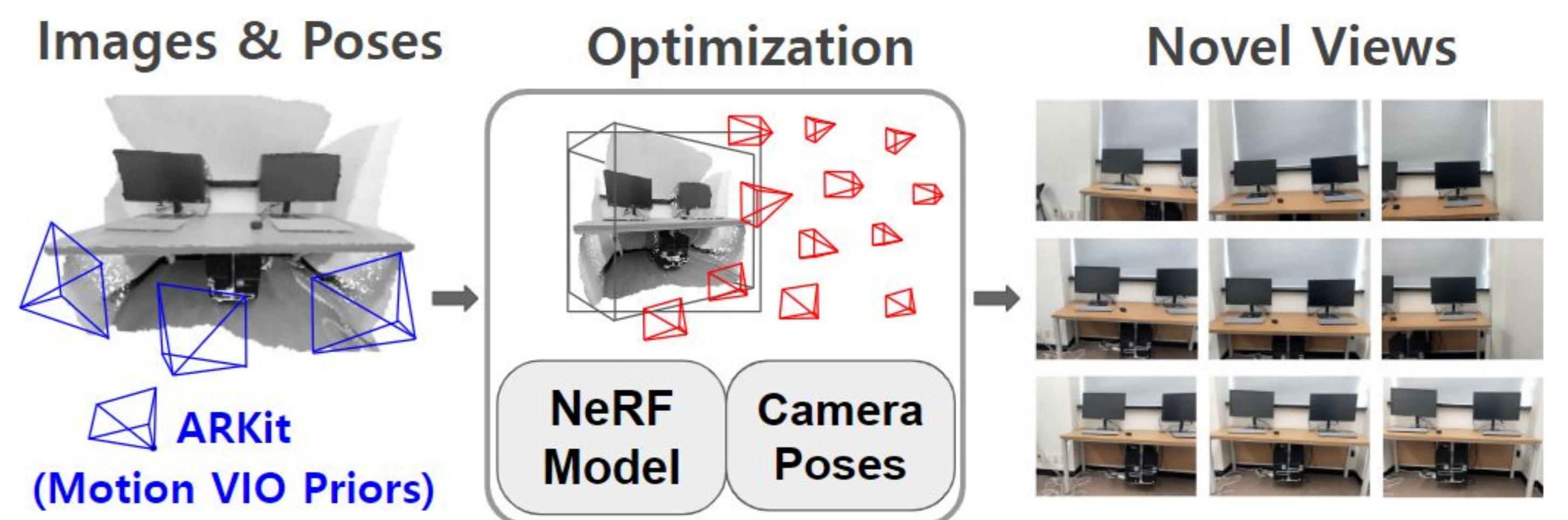
## Motivation



- In nonlinear optimization, using the initial pose as Identity may result in being trapped in local minima and degrading view synthesis quality.

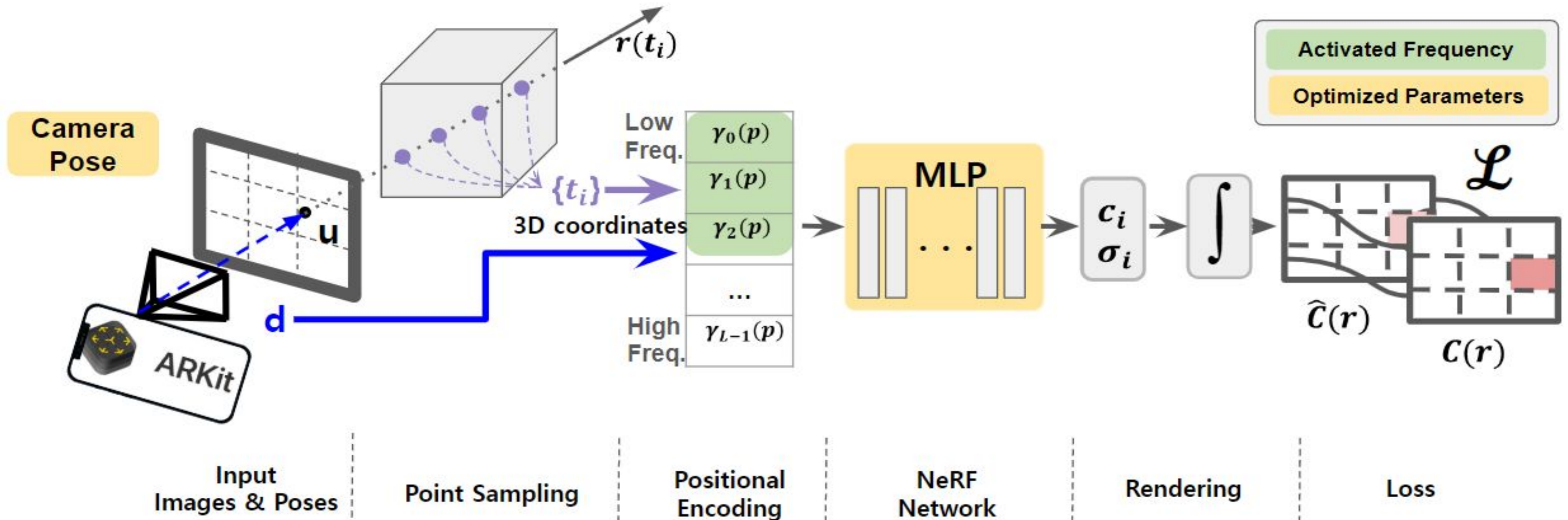
## Solution

### Motion Priors from VIO algorithm



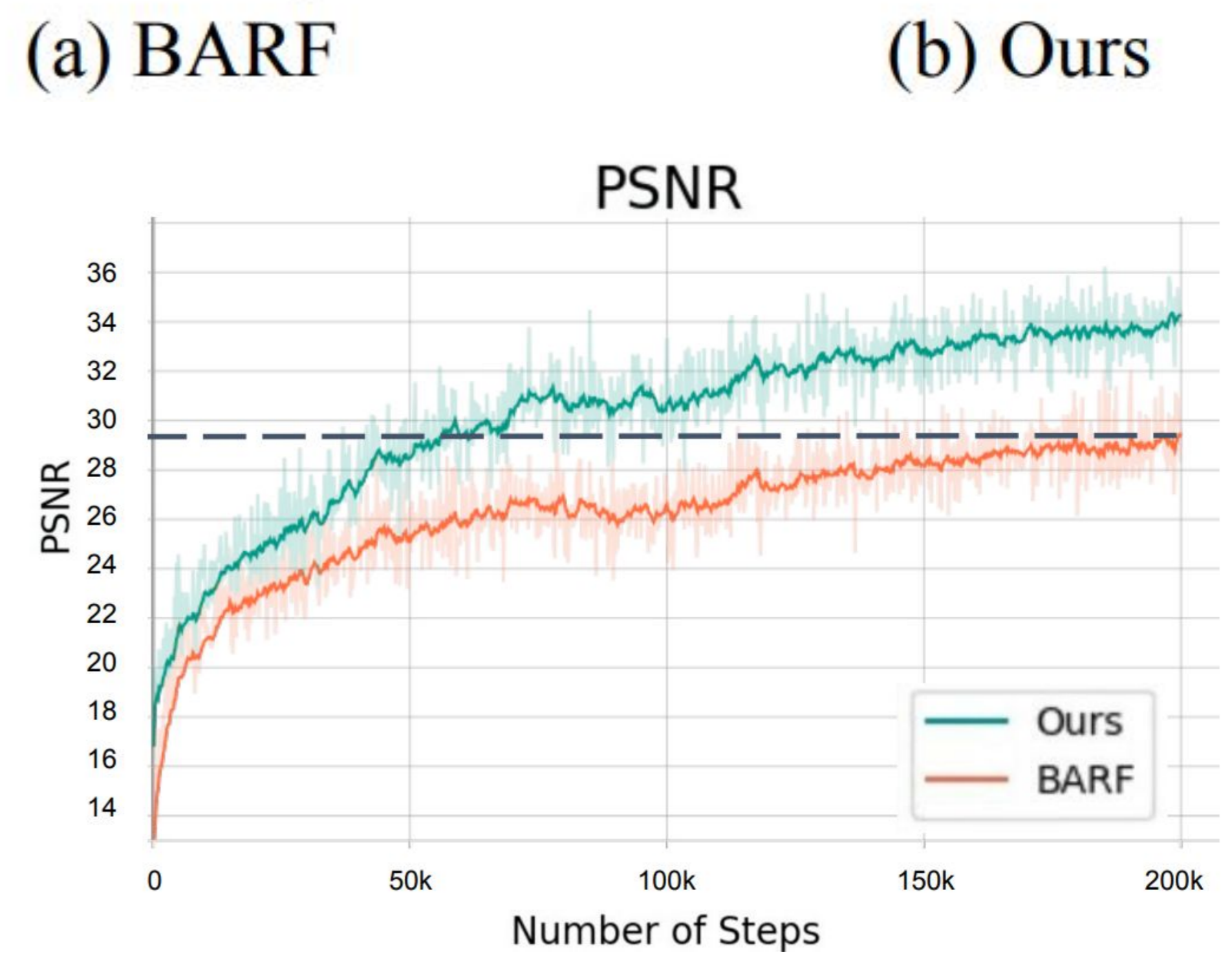
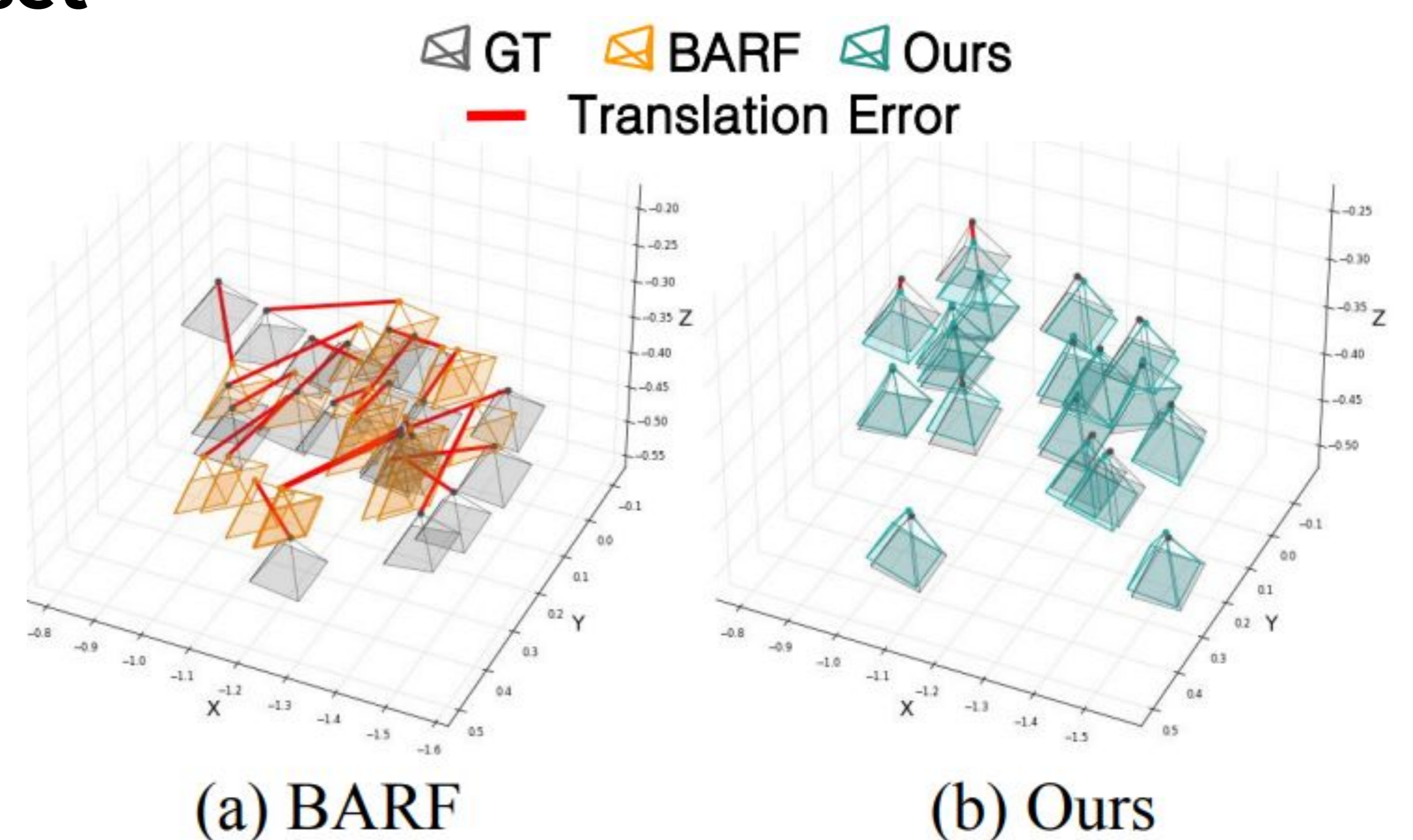
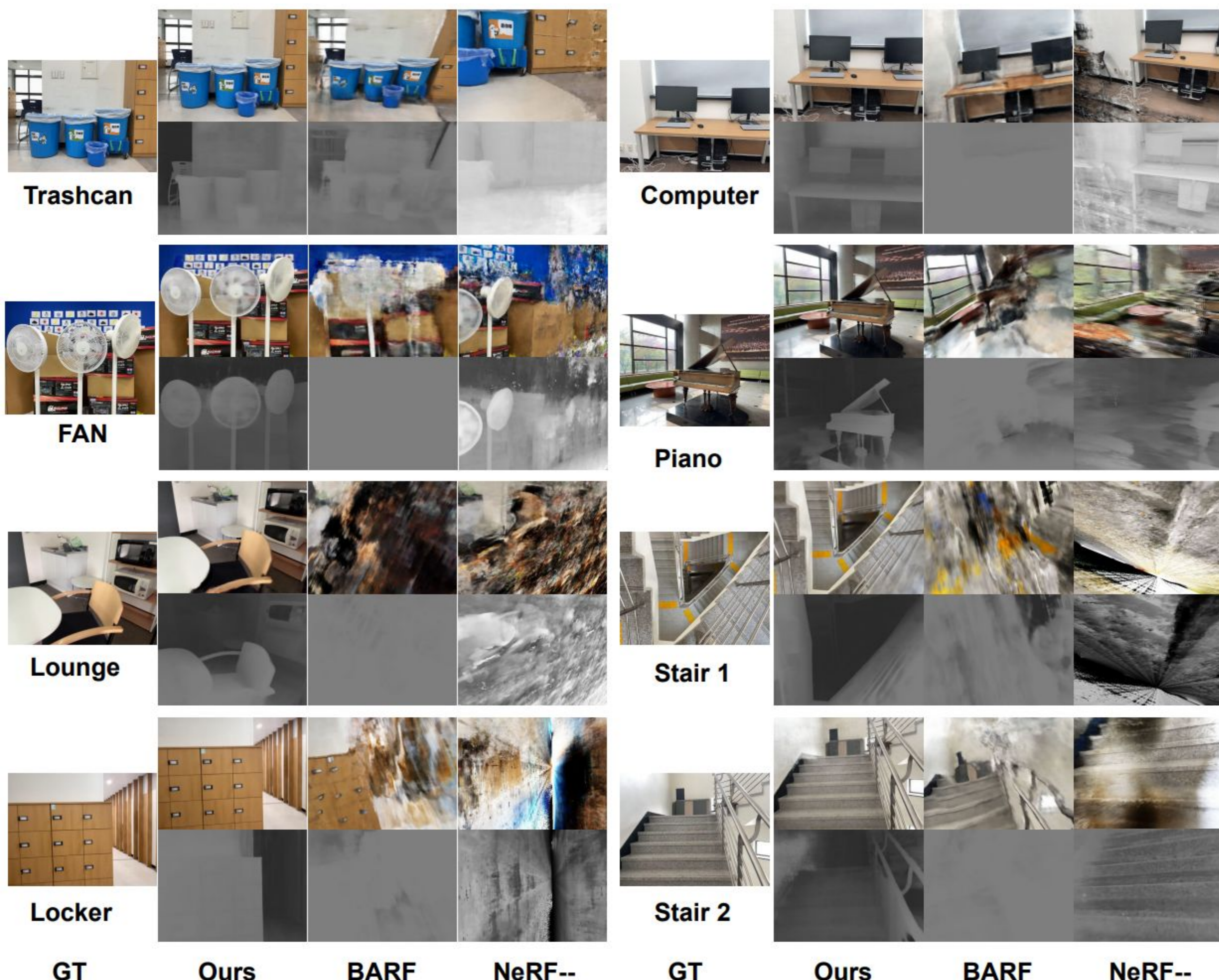
- Apply a **good initial guess** from the Visual-Inertial Odometry algorithm **to the optimization process**.
- **Better and Faster** Novel View Synthesis
- **More stable** Pose Estimation

## Pipeline



## Evaluation

### Author-Collected Dataset



- **Faster and Higher Accuracy in View Synthesis**
- **More Reliable Motion Estimates**