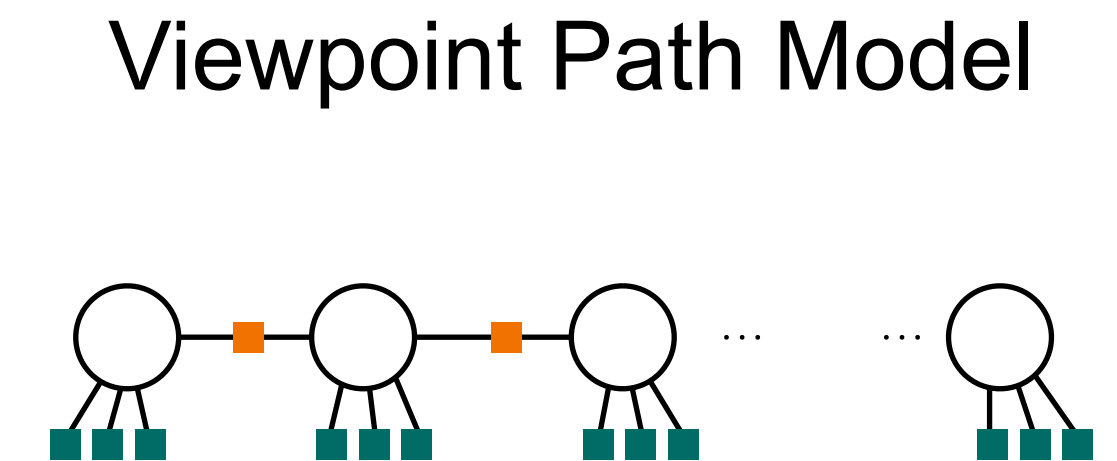
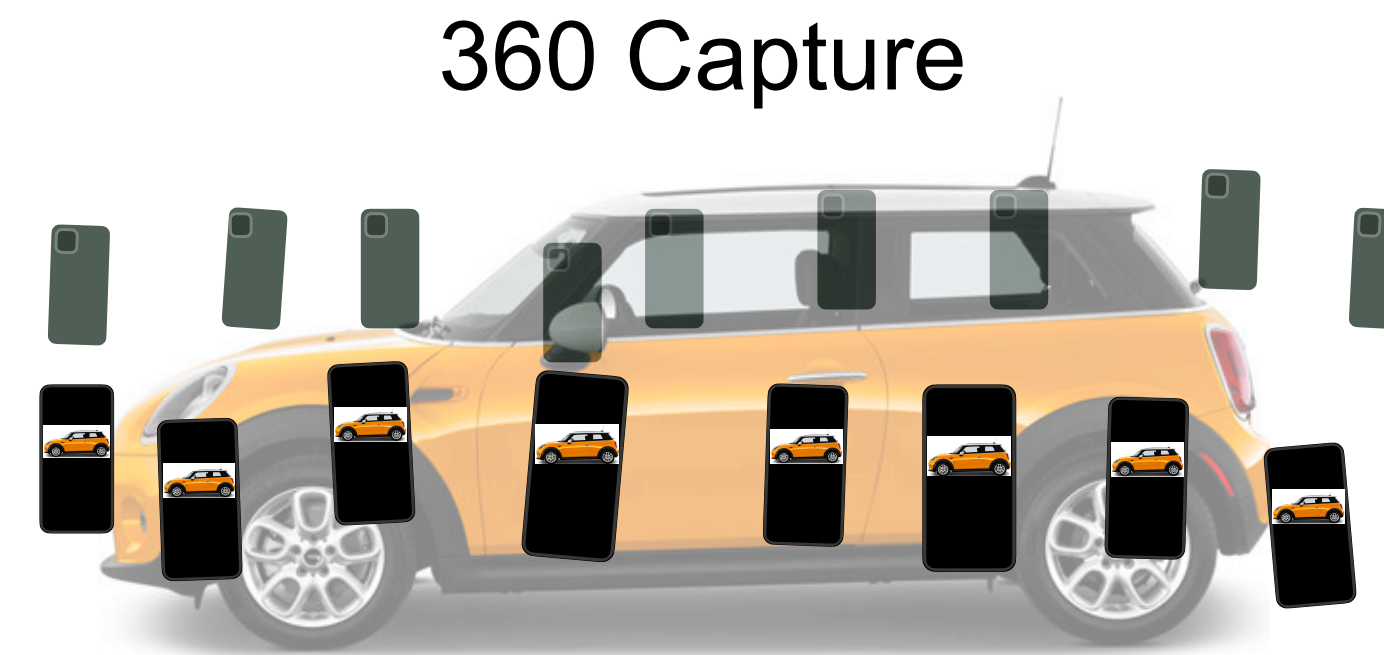


Viewpoint path modeling at Fyusion

5 min

1. Introduction
2. Fyuse v2 Model
3. Challenges



Impact. Fyuse v2 better resembles a turntable capture.

1. Introduction: 1. Background

Turntable for high-quality photos

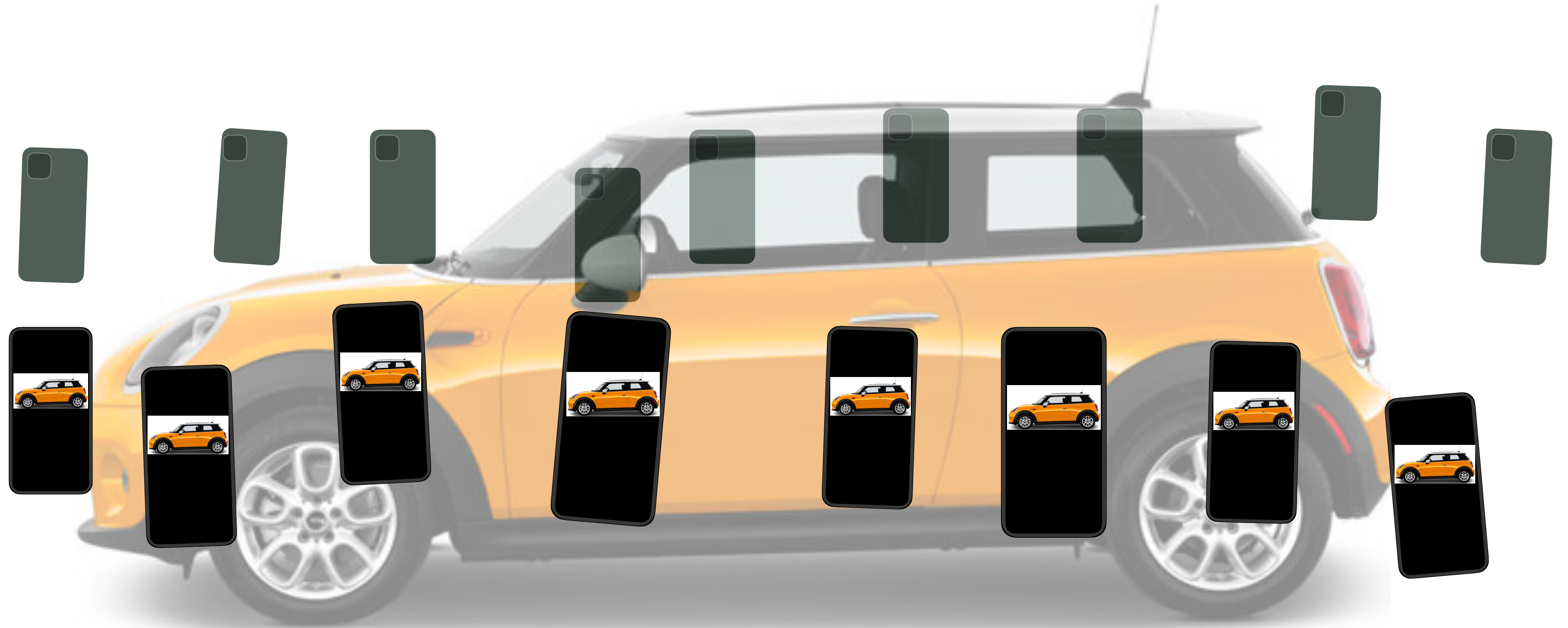
- “Fyuse”: a 360 view
- Content for e-commerce
- From your phone
- Photorealistic
- Application specific: AR tags, damage detection and report



1. Introduction: 2. Ideal Capture



1. Introduction: 3. Realistic Capture



Unaligned orientation, scale, translation





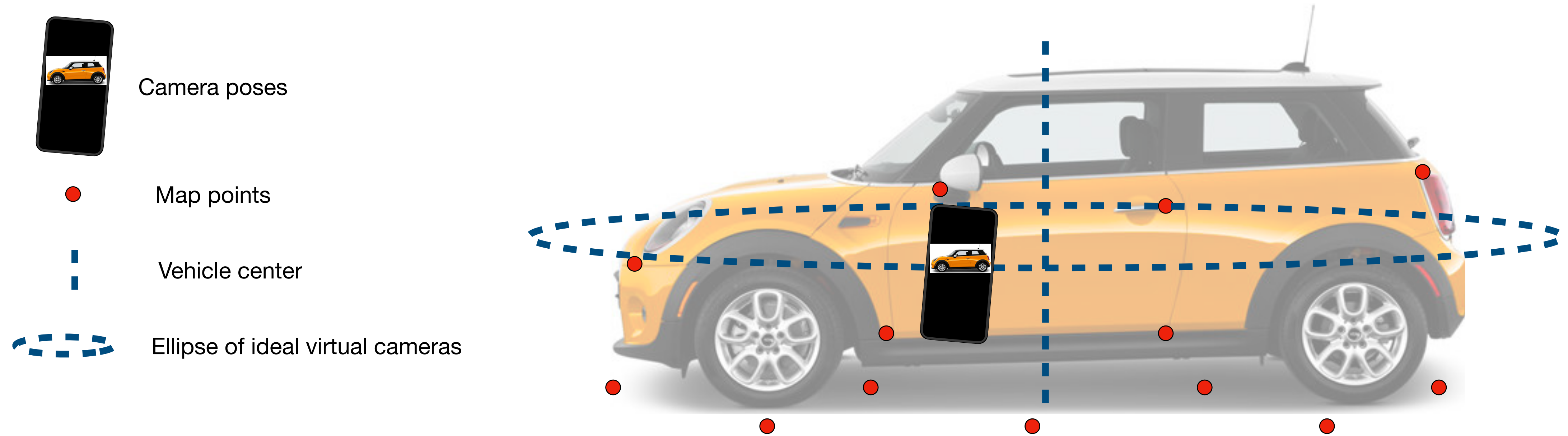


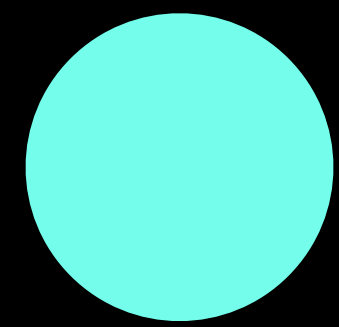




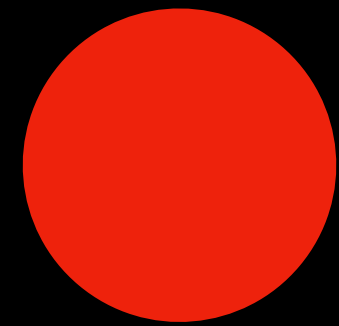


2. Fyuse v2 Model: 1. Viewpoint Path





Desired Pixel Coordinates



Captured Pixel Coordinates

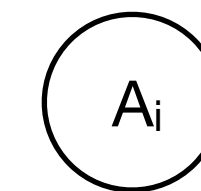
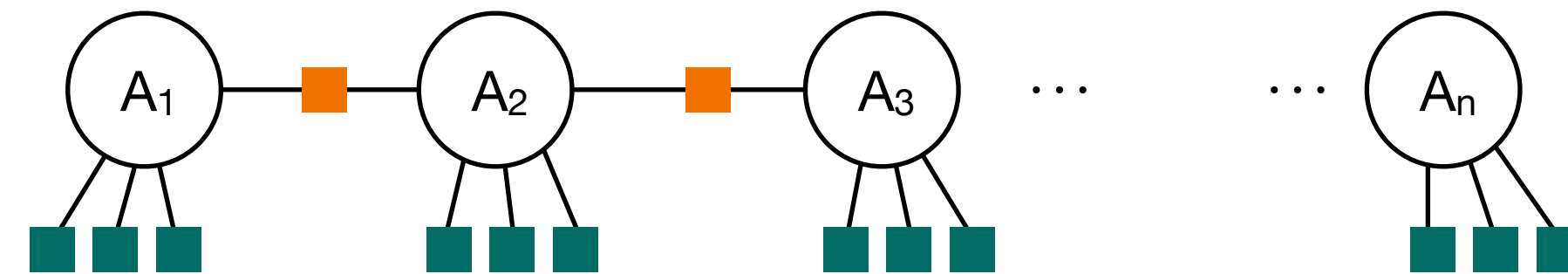


2D Image Transform



2. Fyuse v2 Model: 2. Optimization

- Factor graph model
- Solve for 2D image transforms
- Non-linear least squares



Parameters for a 2D image transform

■ 2D image alignment error

■ 2D image transform smoothness

3. Challenges

- Noisy SLAM result. Due to, e.g., low texture objects.
- Perspective distortion. Due to fisheye lenses, up-close images.
- Image quality. Video capture compared to image capture

Questions?