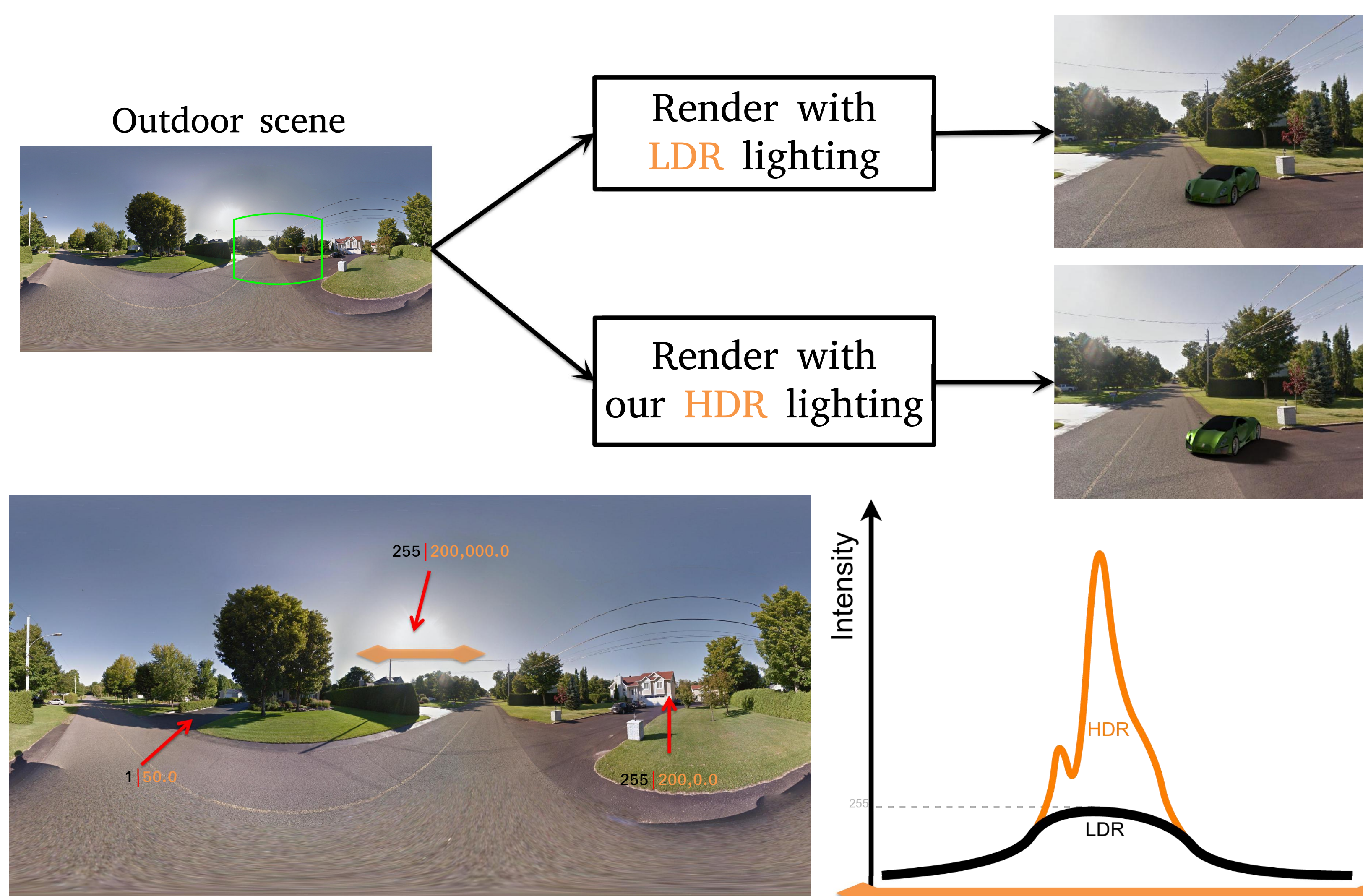


Motivation

Outdoor lighting

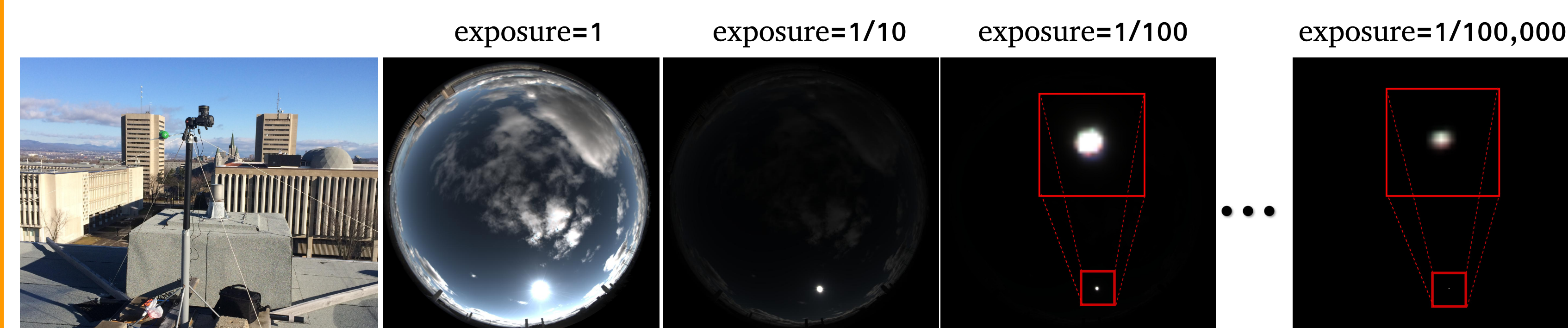
Low Dynamic Range (LDR) vs. High Dynamic Range (HDR)



Challenge

Hard to capture outdoor lighting with conventional cameras.

- Extremely high dynamic range
- Absolute intensity



Goal

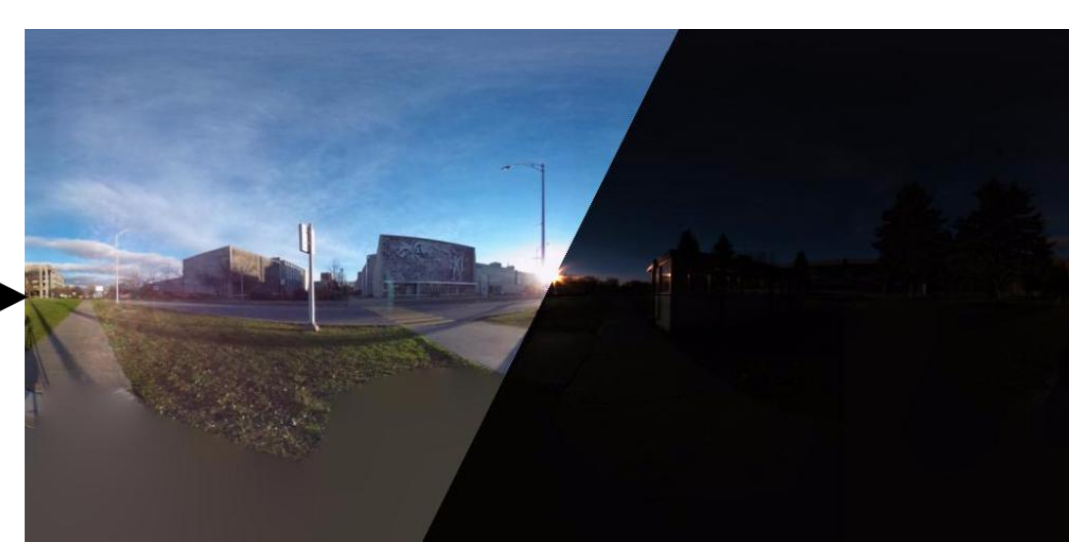
Directly learn the extremely high dynamic range of outdoor lighting from a single, LDR 360° panorama.

Input: LDR



CNN

Output: HDR



Project page

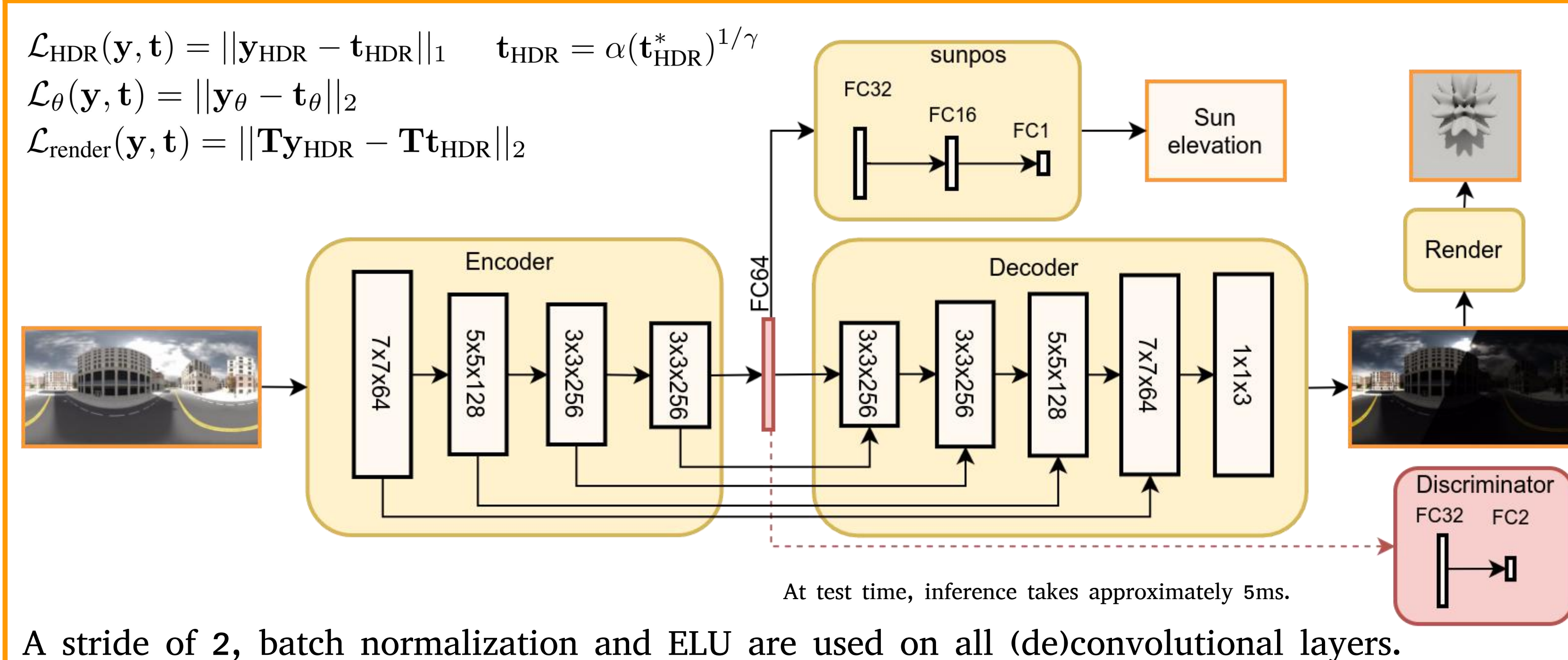


Contributions

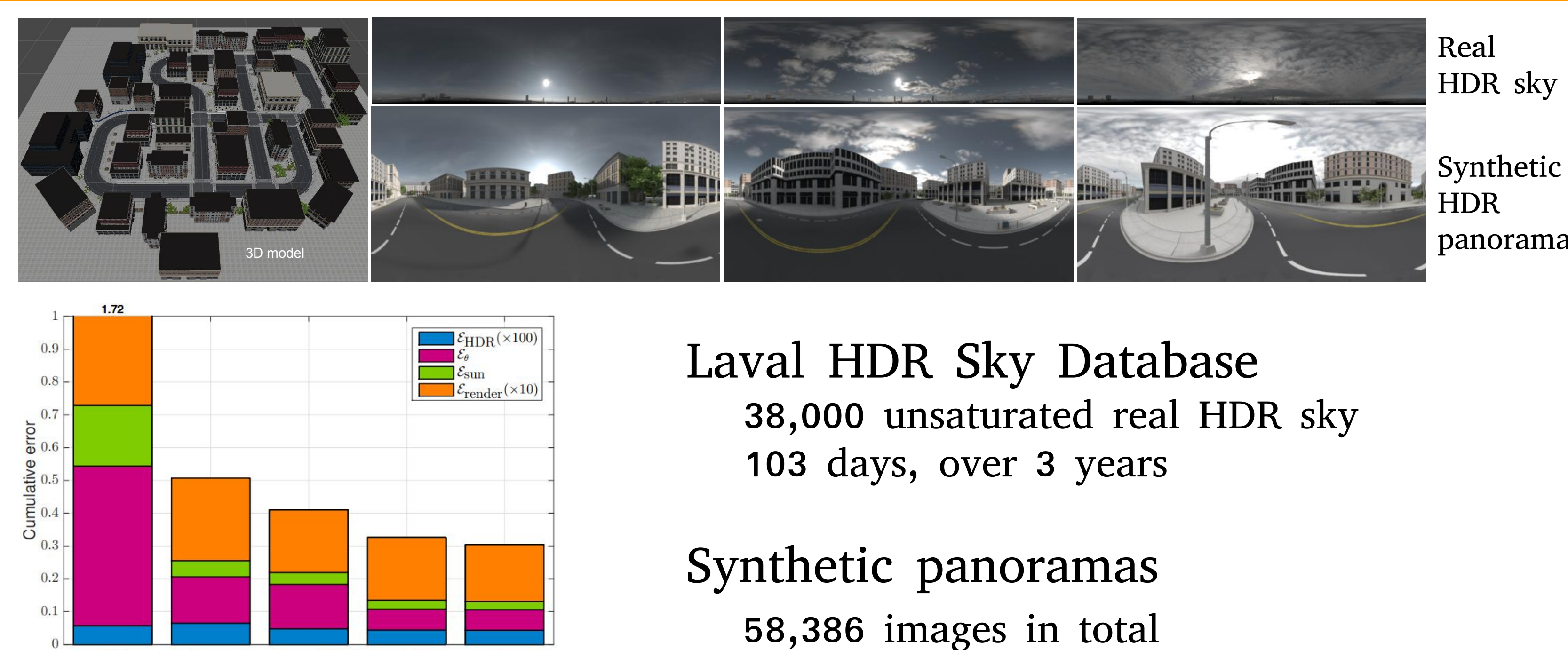
- Regress HDR instead of capturing it
- Novel LDR/HDR dataset
- Three novel applications

Approach

Network Architecture

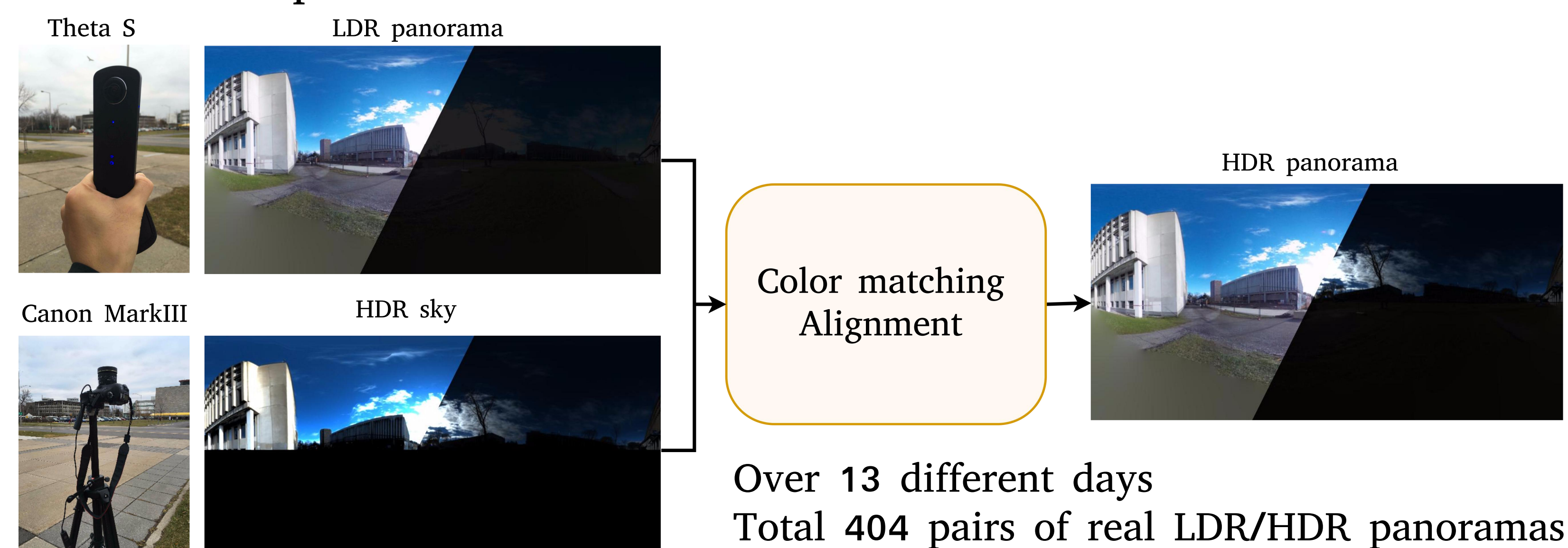


Synthetic Data Generation & Result

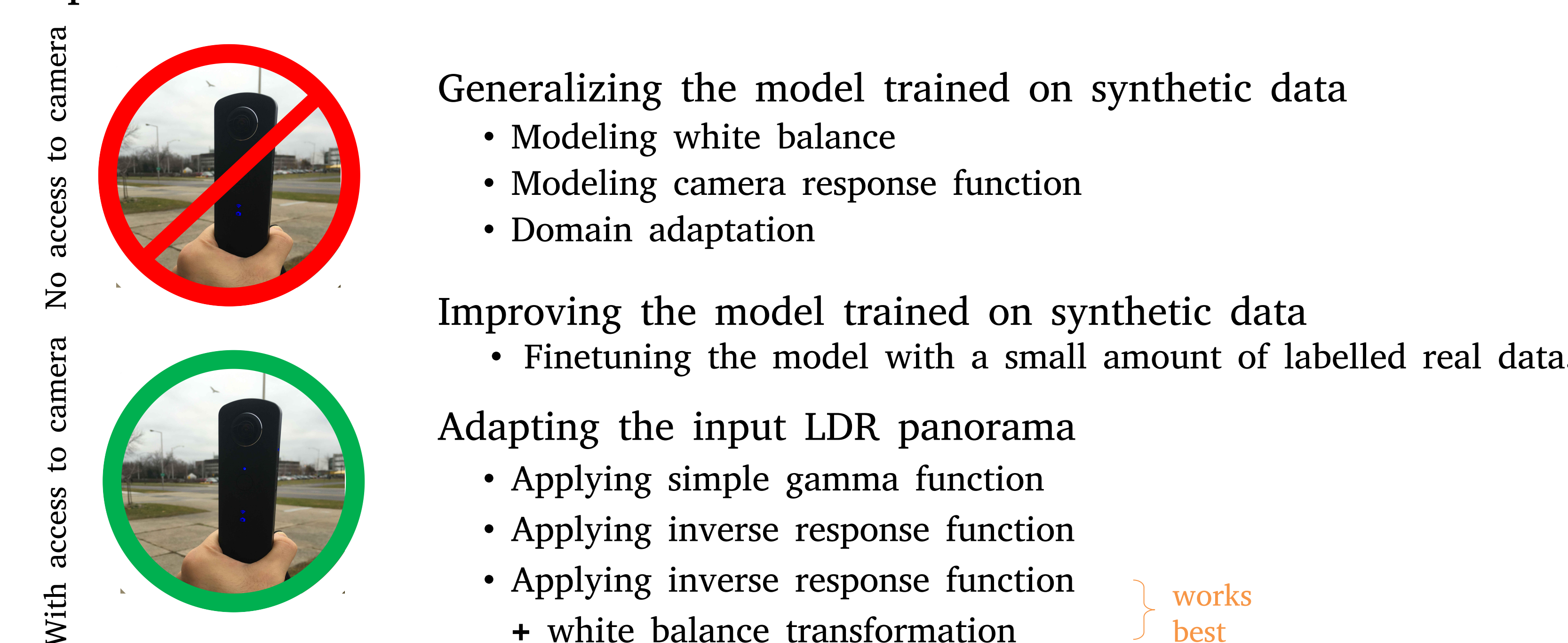


From synthetic to Real

Real Data Capture



Experiments on Real Data



Results

Applications

1. Single shot outdoor light probe



2. Making Google Street View HDR



3. Image matching



Results on Real Data

