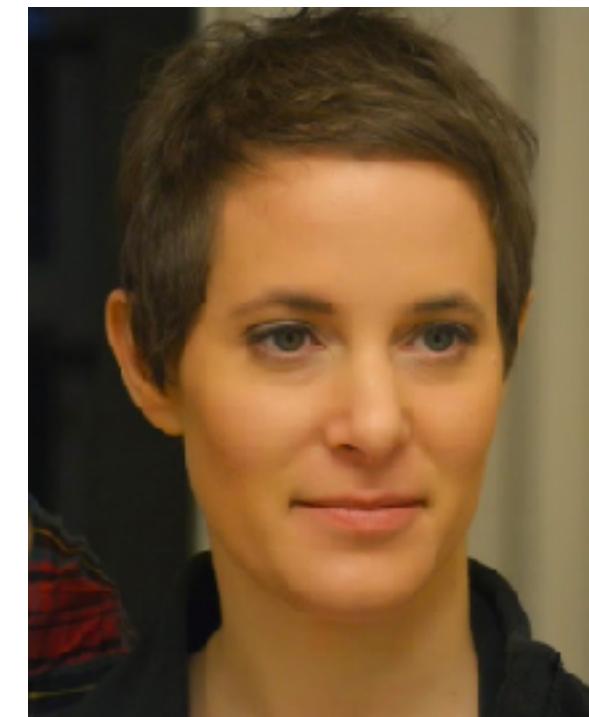


Learning to Factorize and Relight a City



Andrew Liu
Google



Shiry Ginosar
UC Berkeley



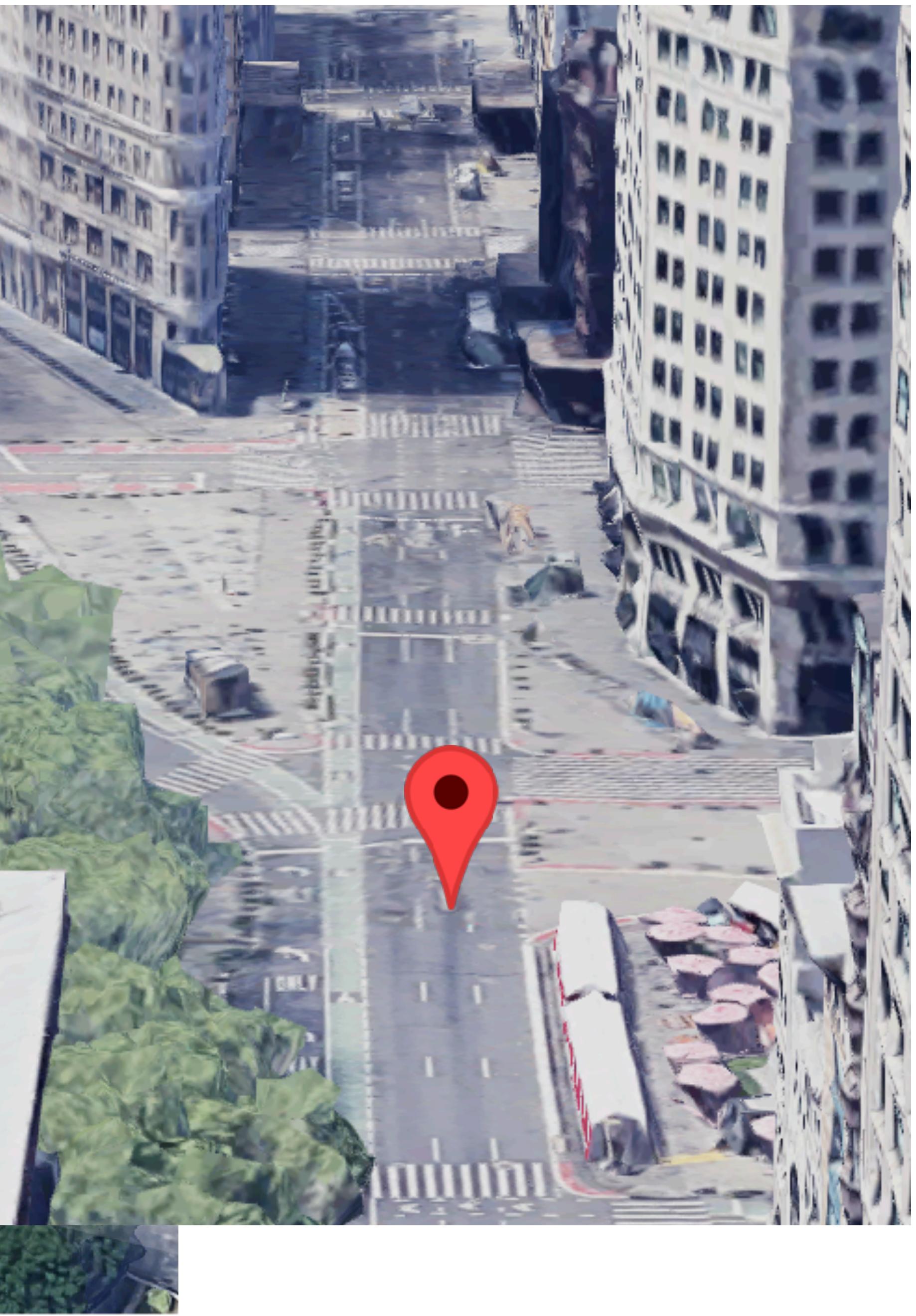
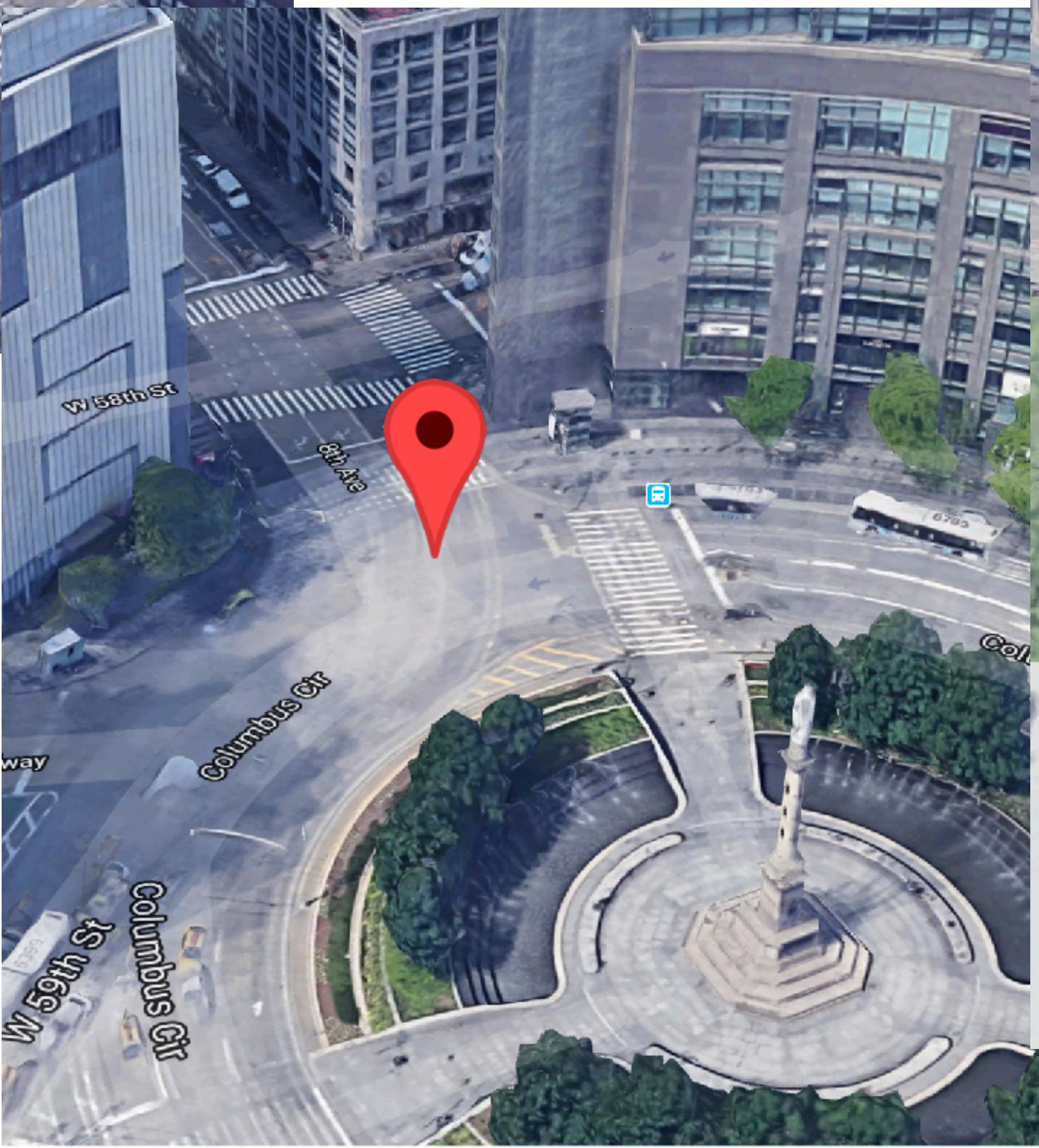
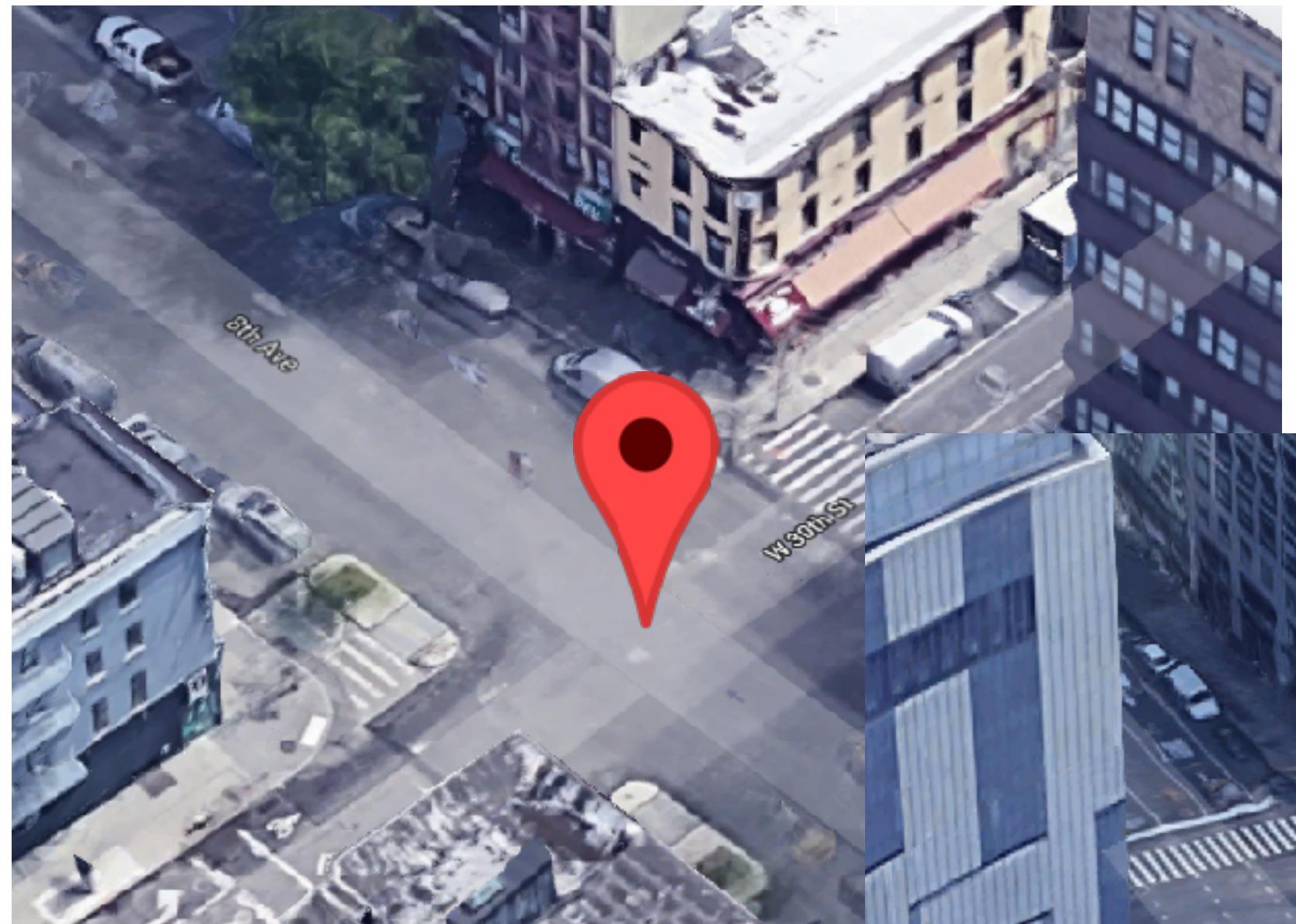
Tinghui Zhou
Humen AI



Alexei A. Efros
UC Berkeley



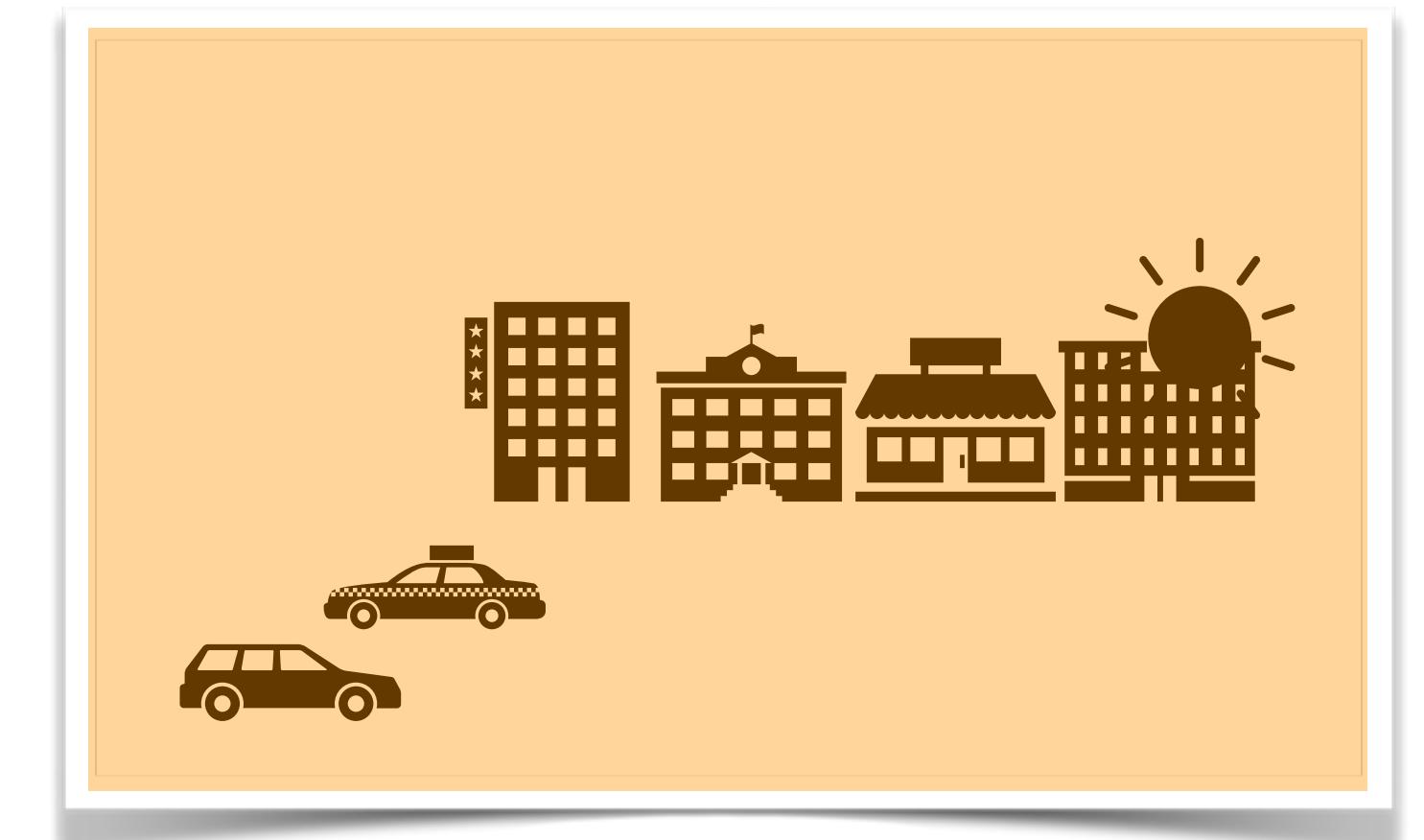
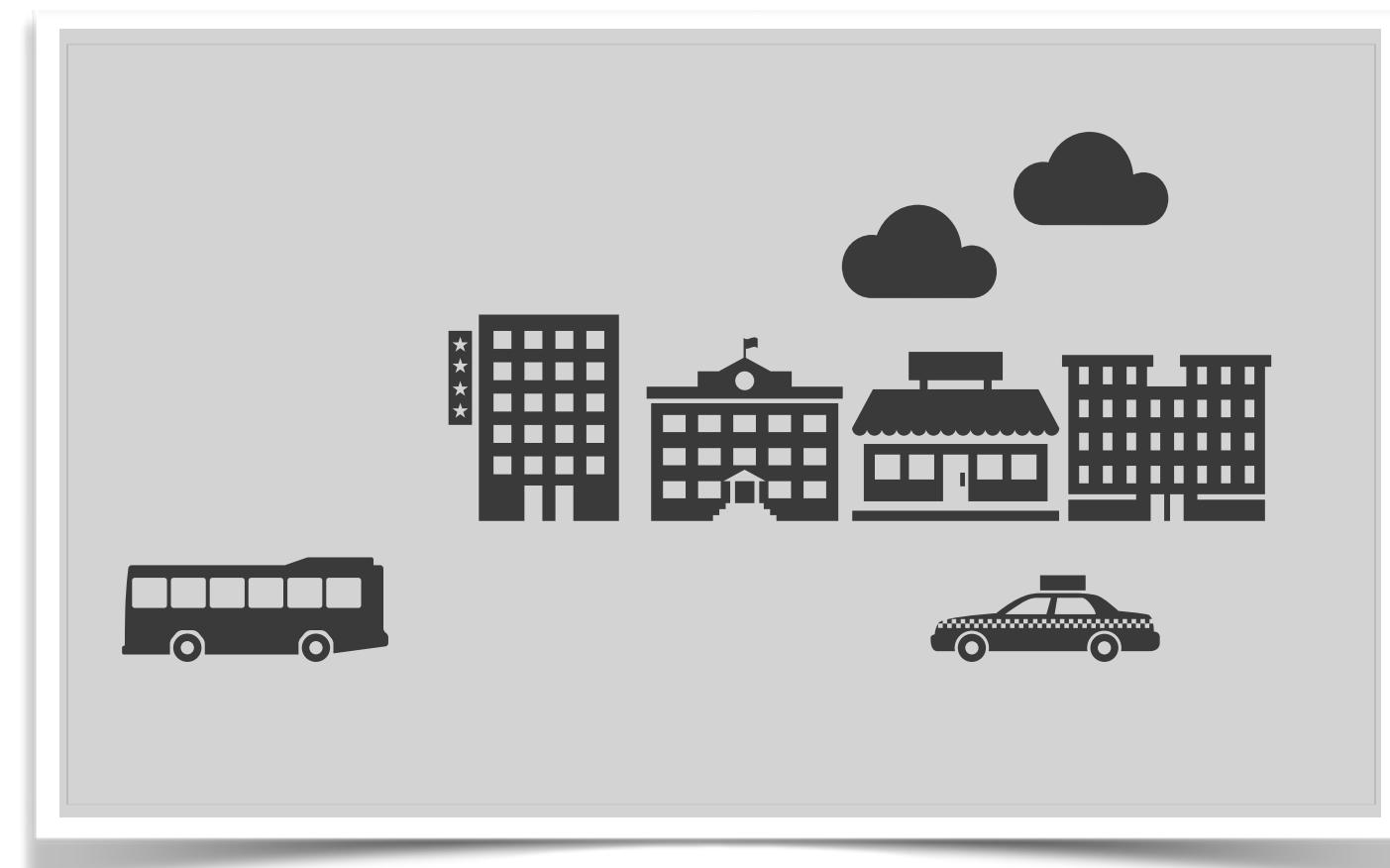
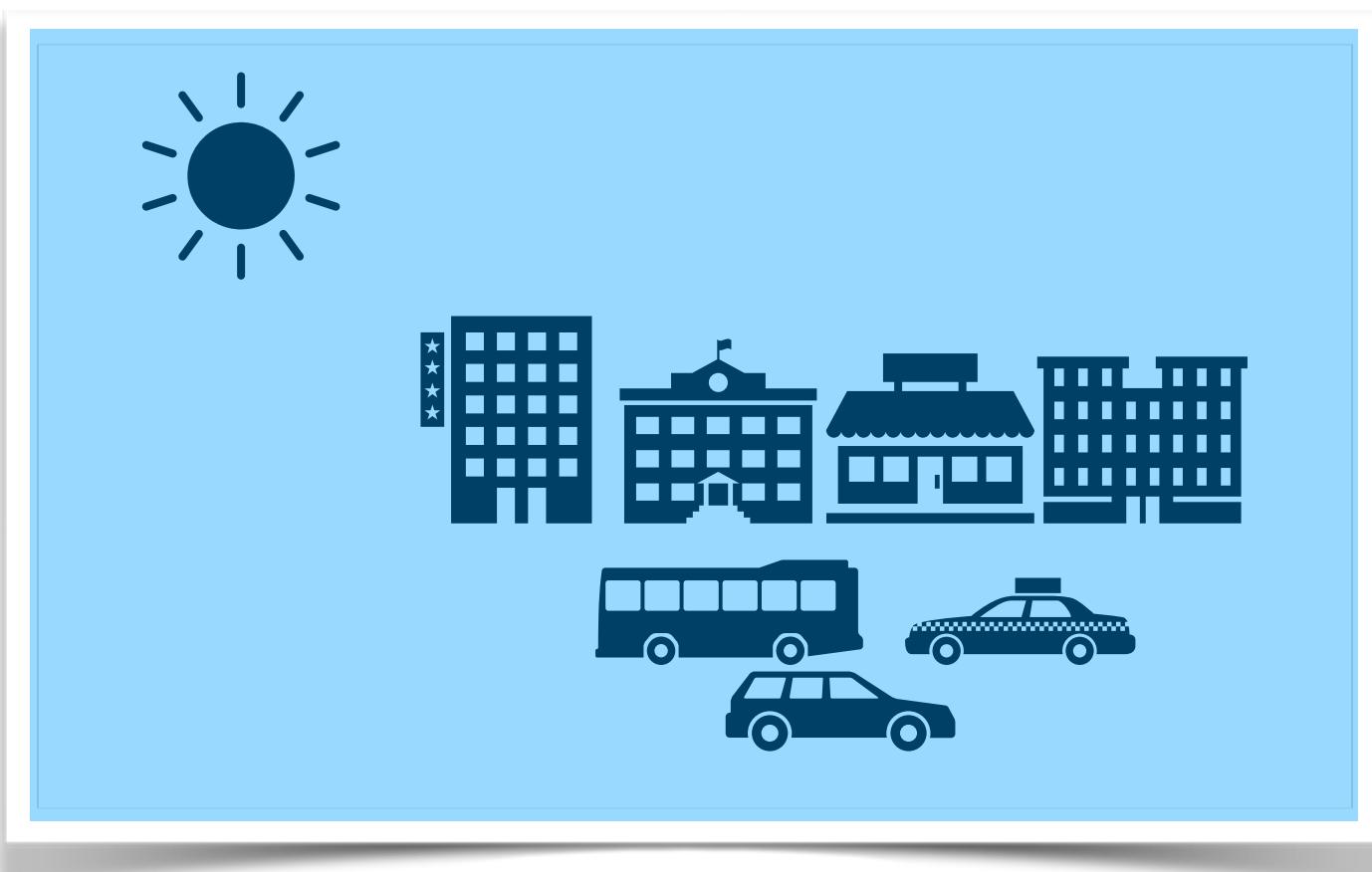
Noah Snavely
Google



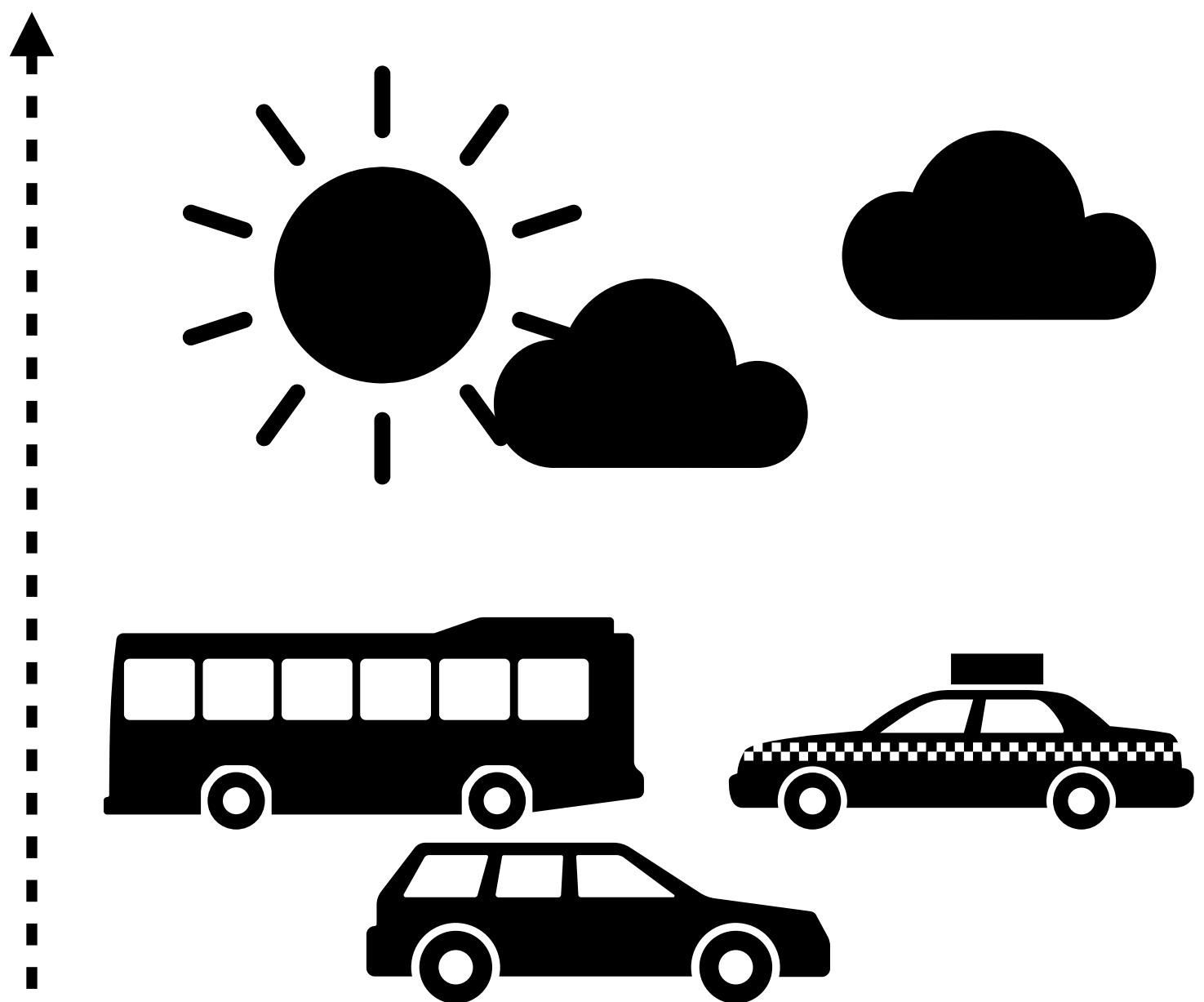


Google Street View Time Machine





Temporally varying



Permanent



We can modify the time-varying factors

Original Scene



Rotate Sun



Modify Sun Azimuth



$-\pi$

π

We can modify the time-varying factors

Original Scene



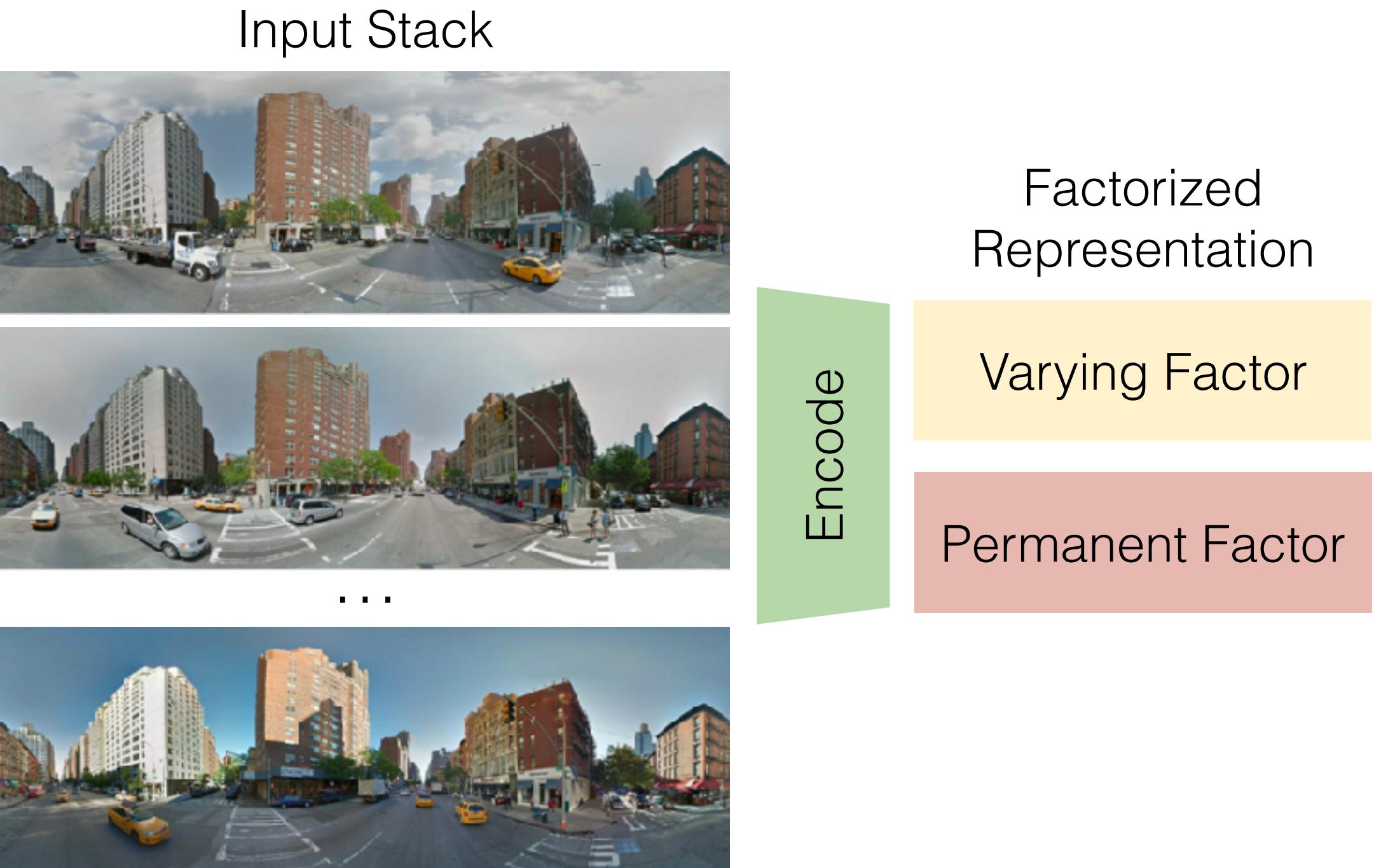
Change Lighting



Modify Sky Conditions

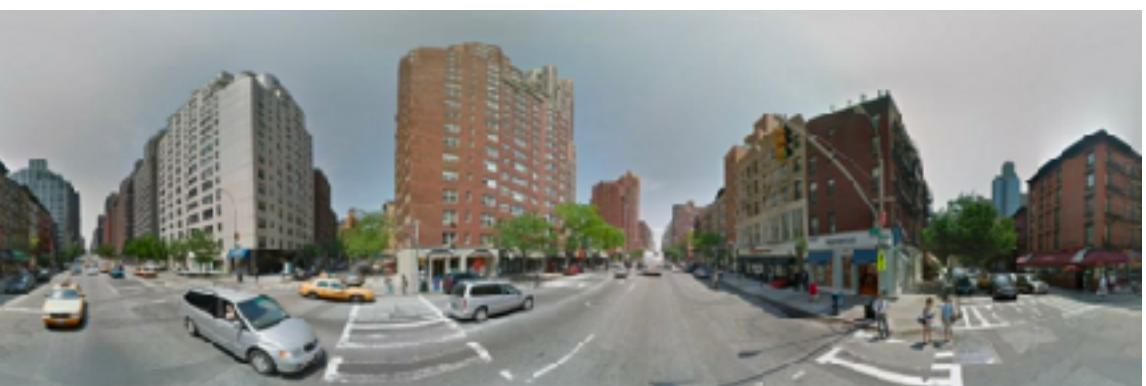


Method



Method

Input Stack



Factorized
Representation

Varying Factor

Permanent Factor

Encode

Decode

Stack Shading



Stack Reflectance



Project Website:
factorize-a-city.github.io