

Learning to Factorize and Relight a City



Andrew Liu
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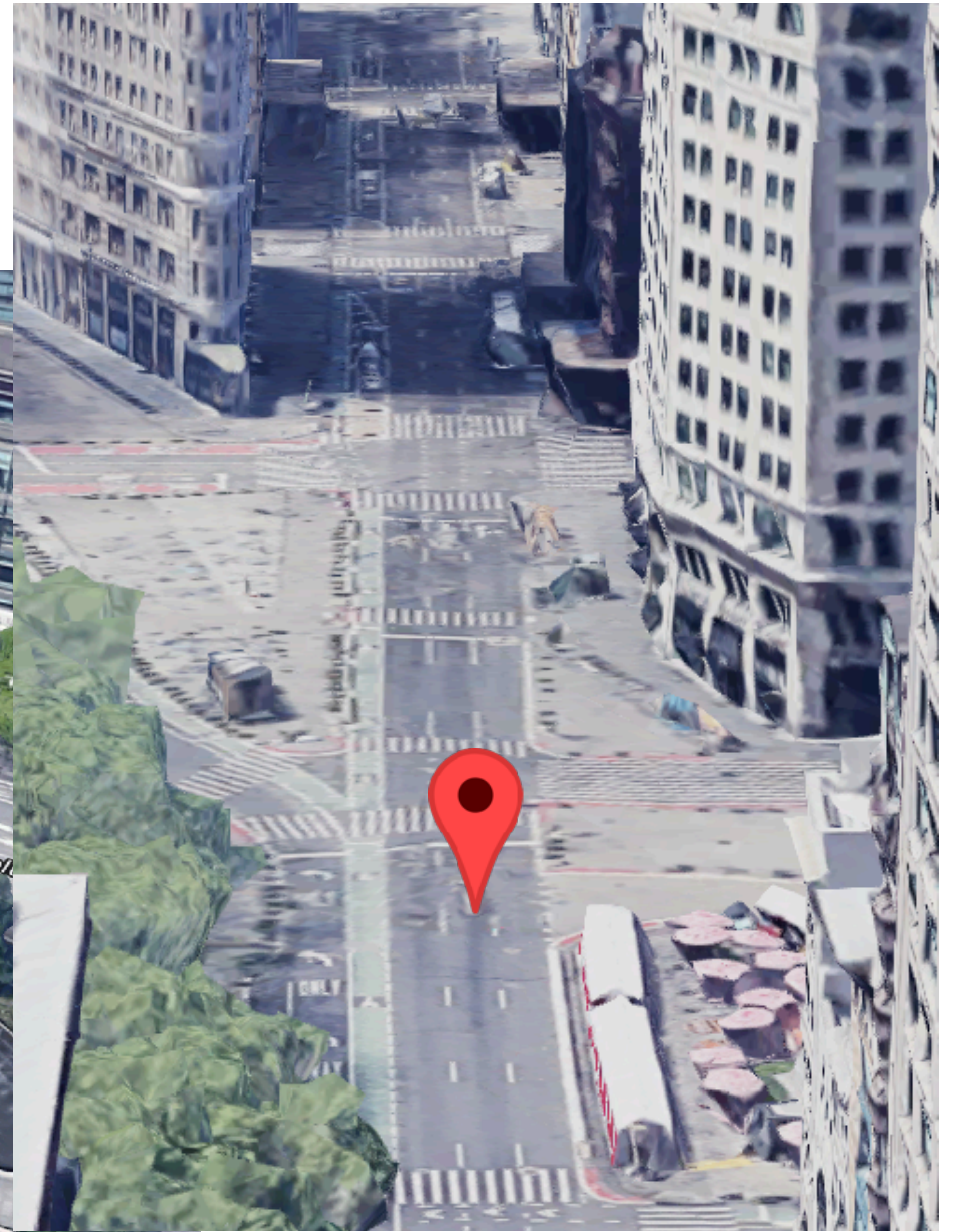
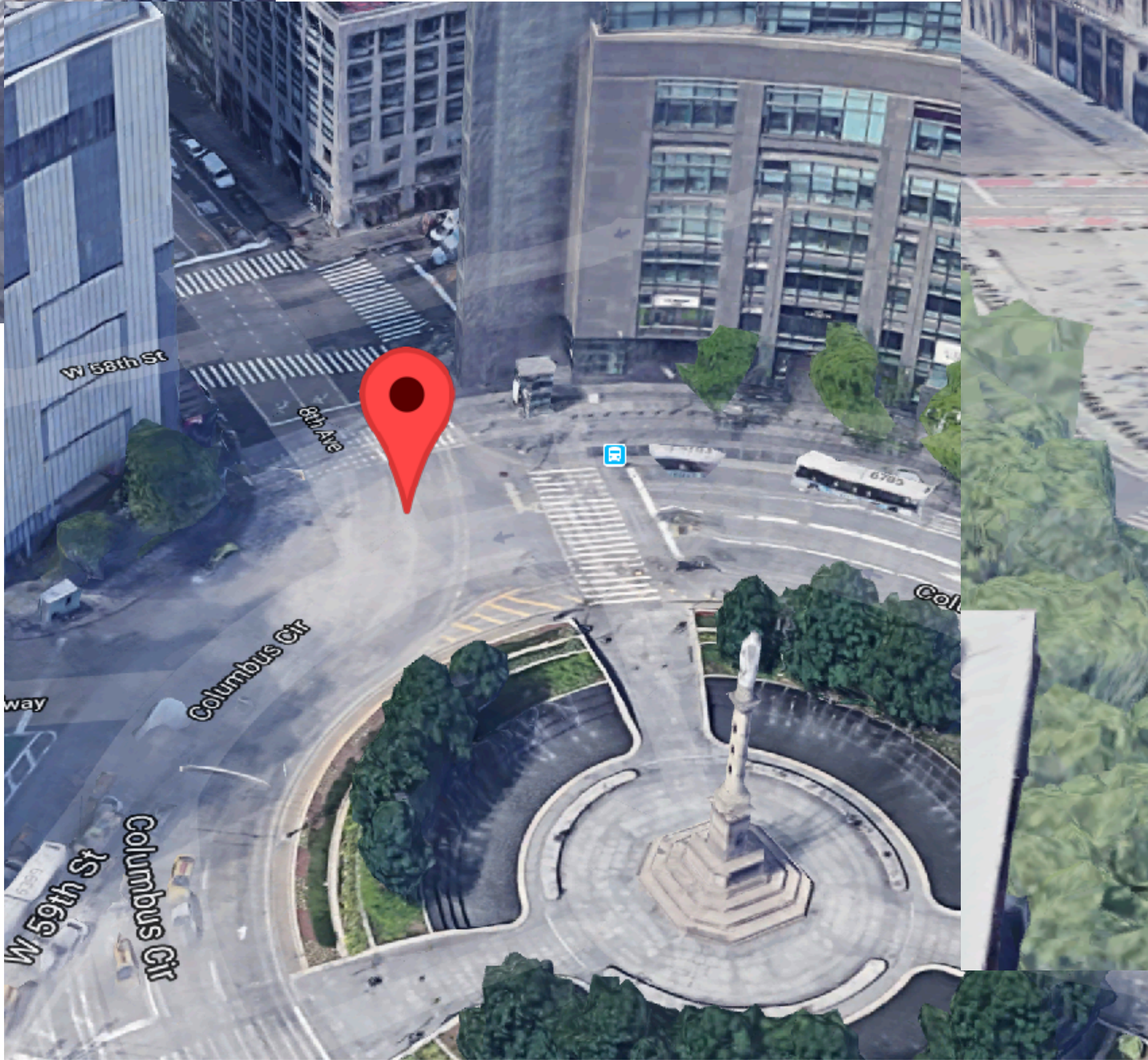
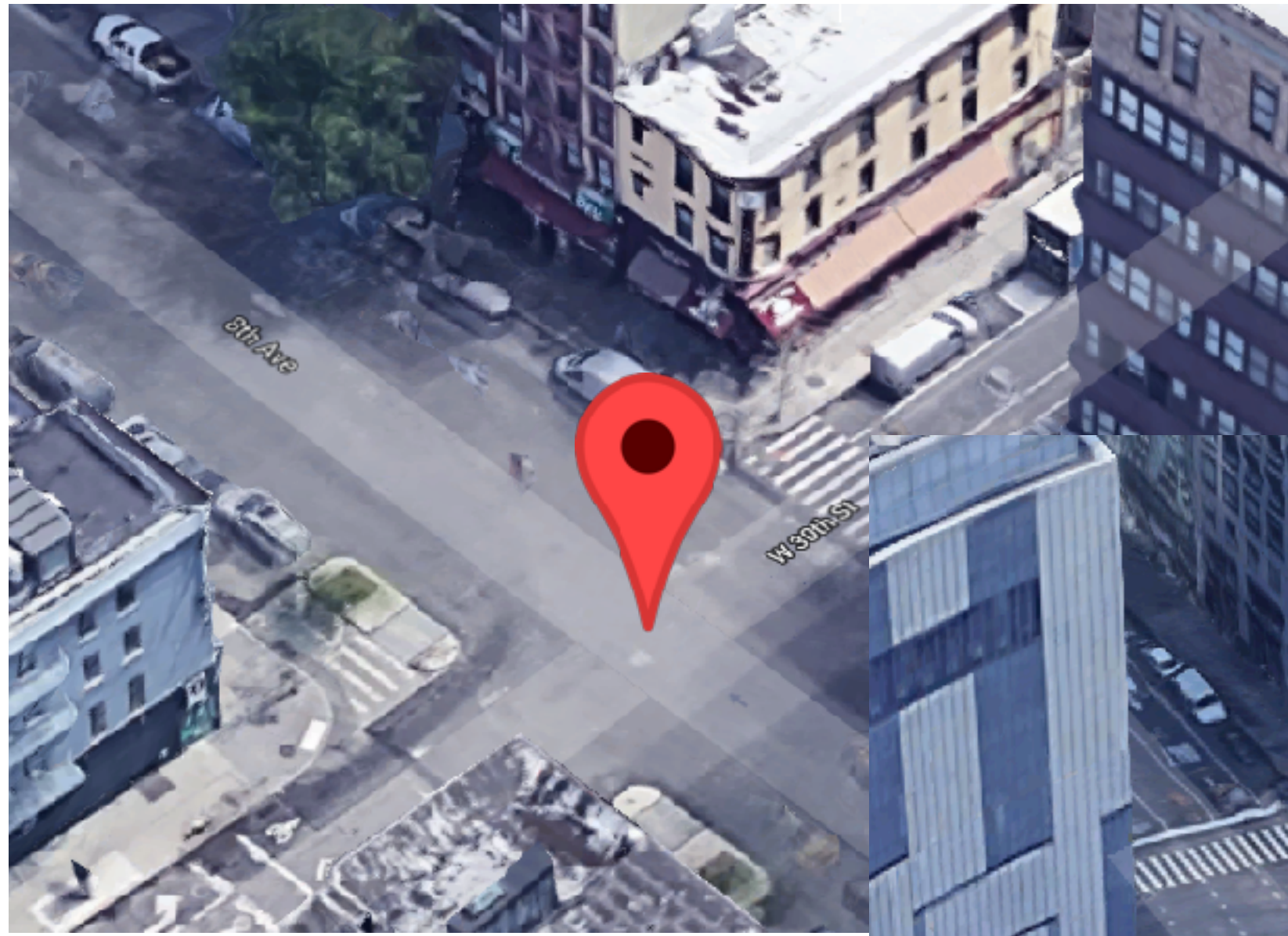
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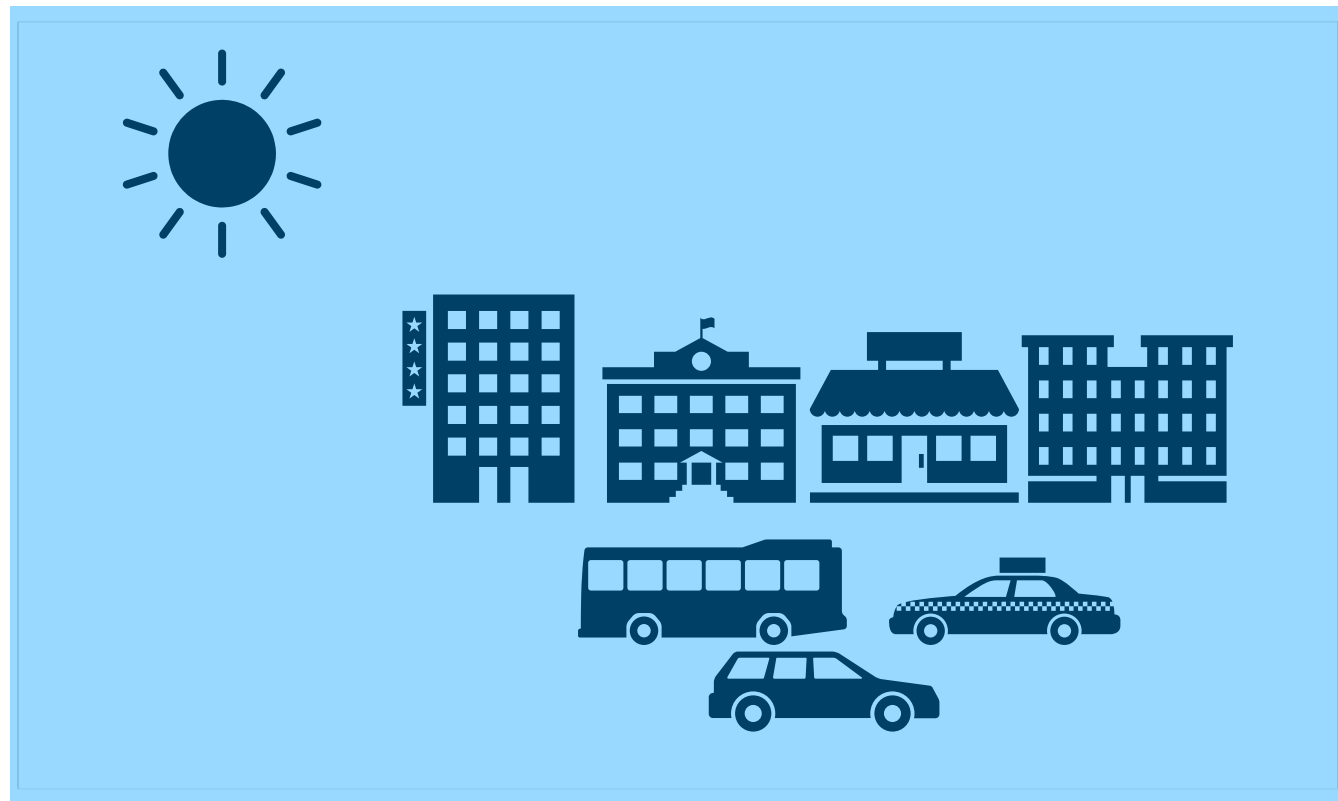
Noah Snavely
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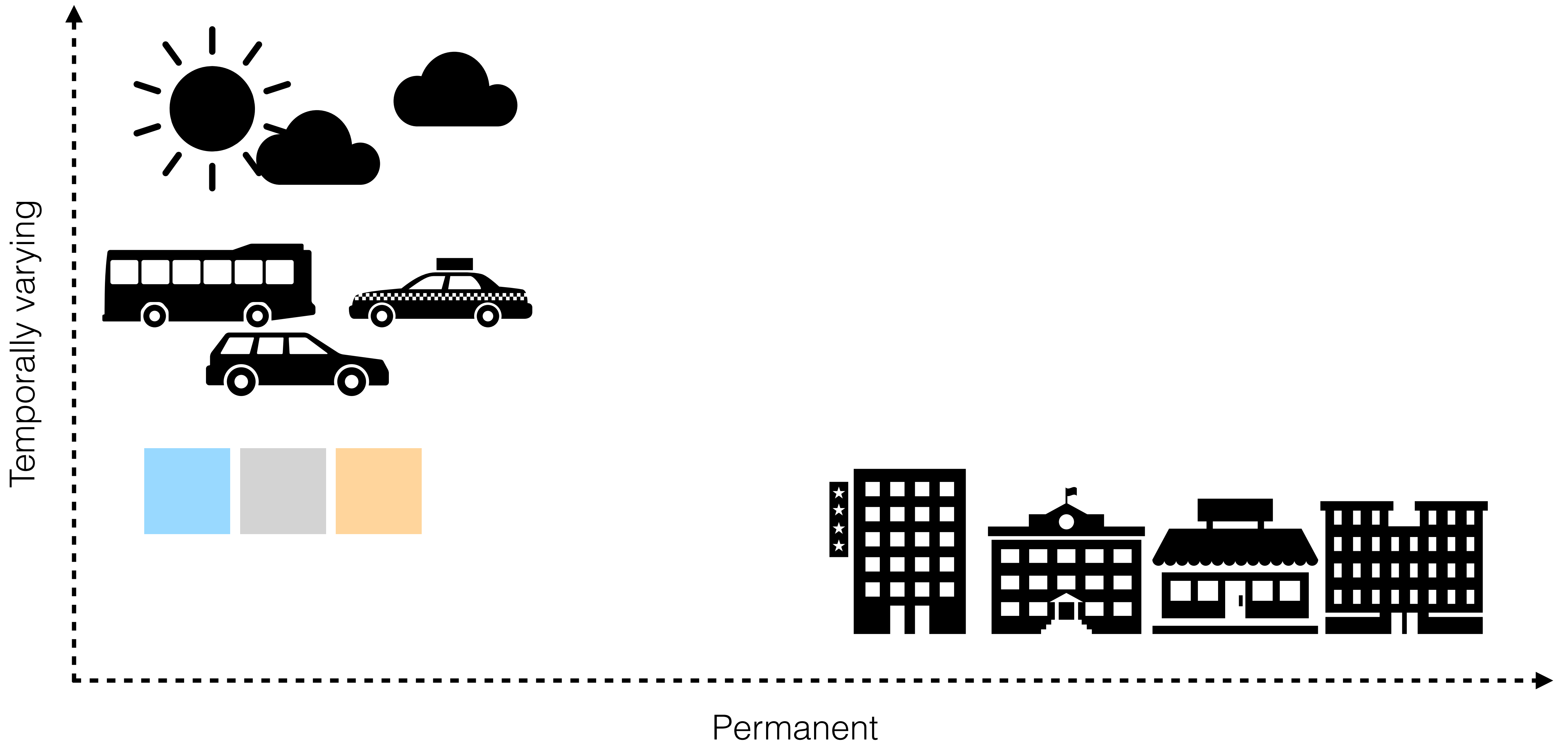




Google Street View Time Machine







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

Input Stack



...



Encode

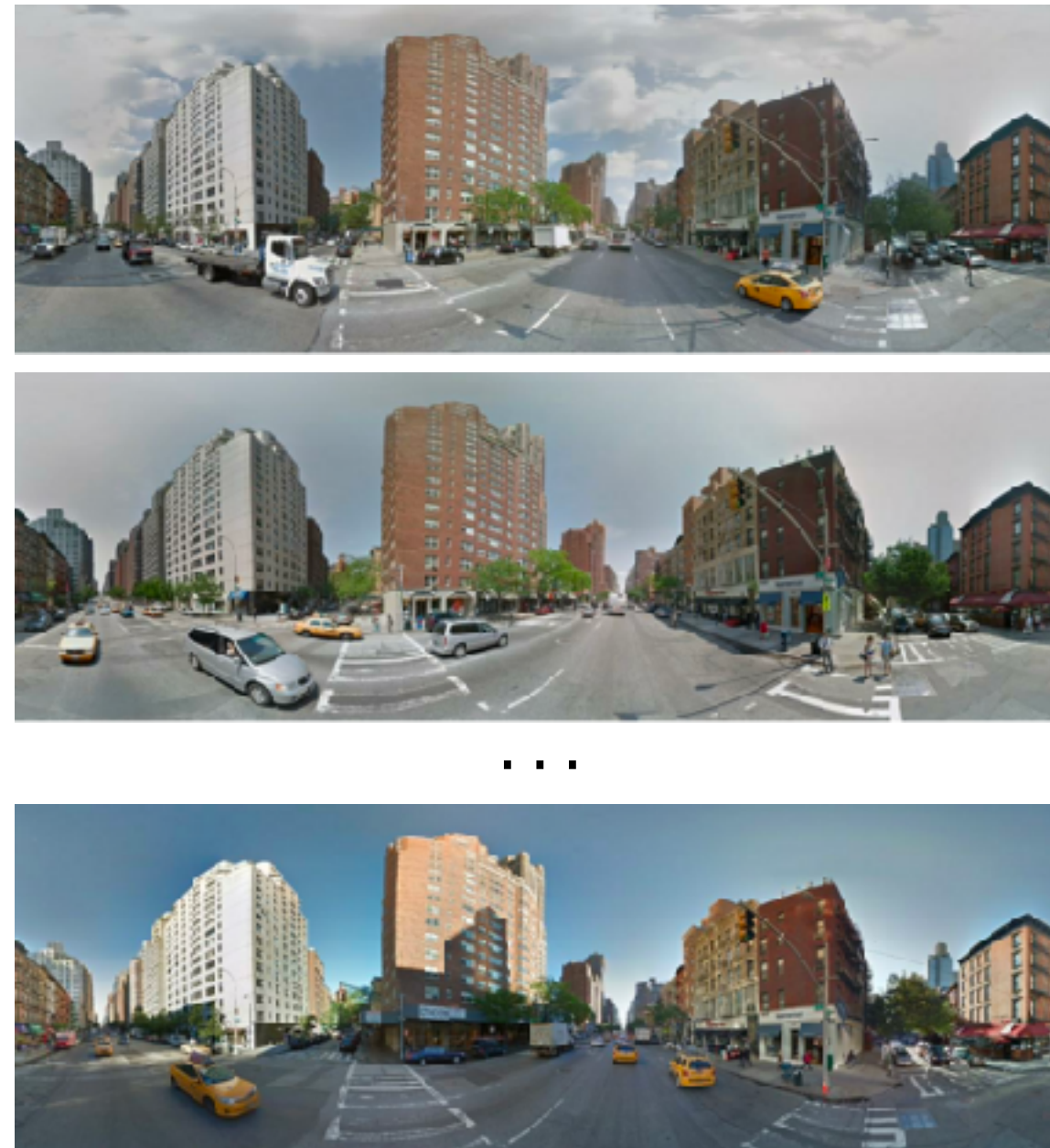
Factorized
Representation

Varying Factor

Permanent Factor

Method

Input Stack



Factorized
Representation

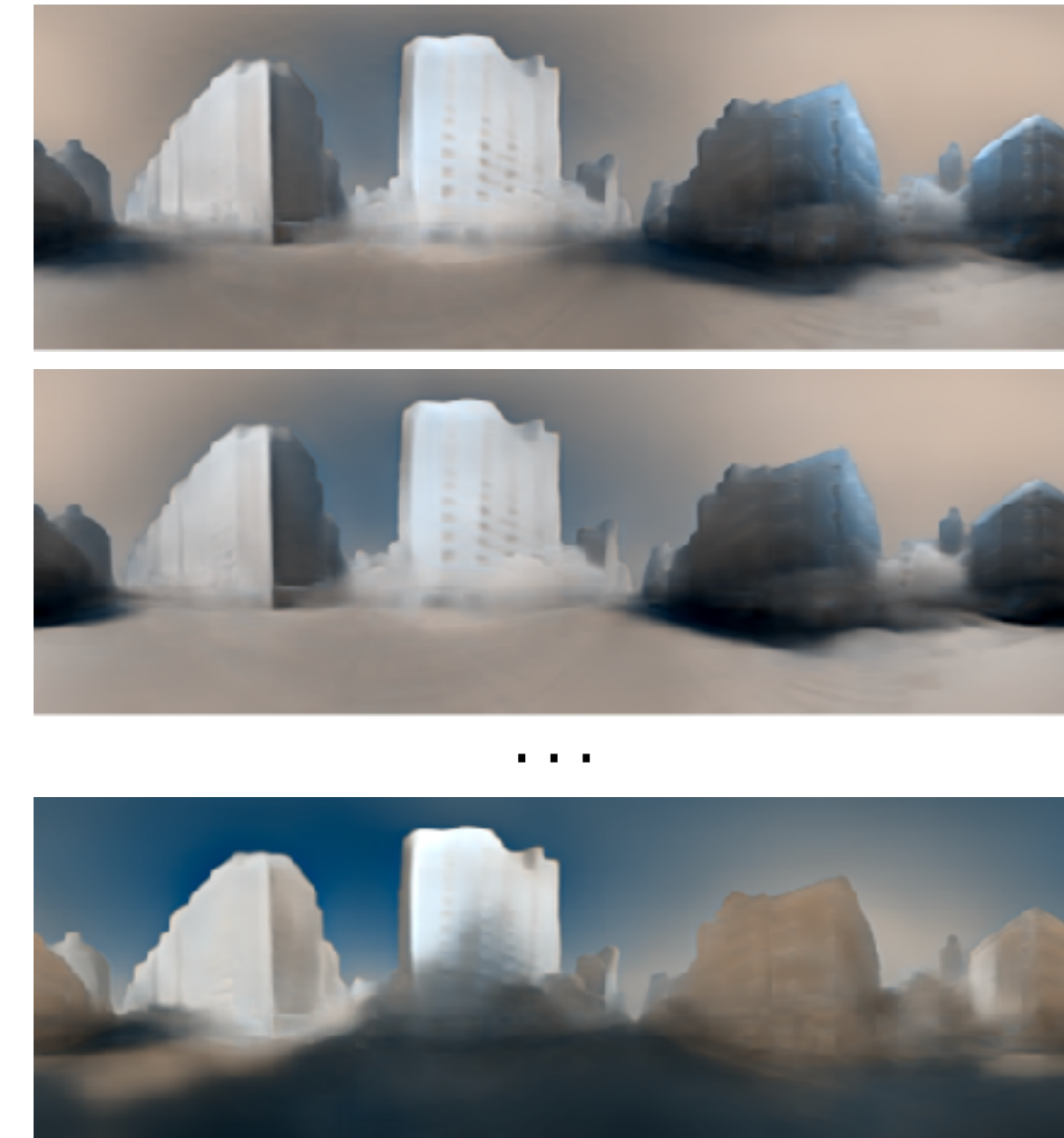
Encode

Varying Factor

Permanent Factor

Decode

Stack Shading



Stack Reflectance





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