

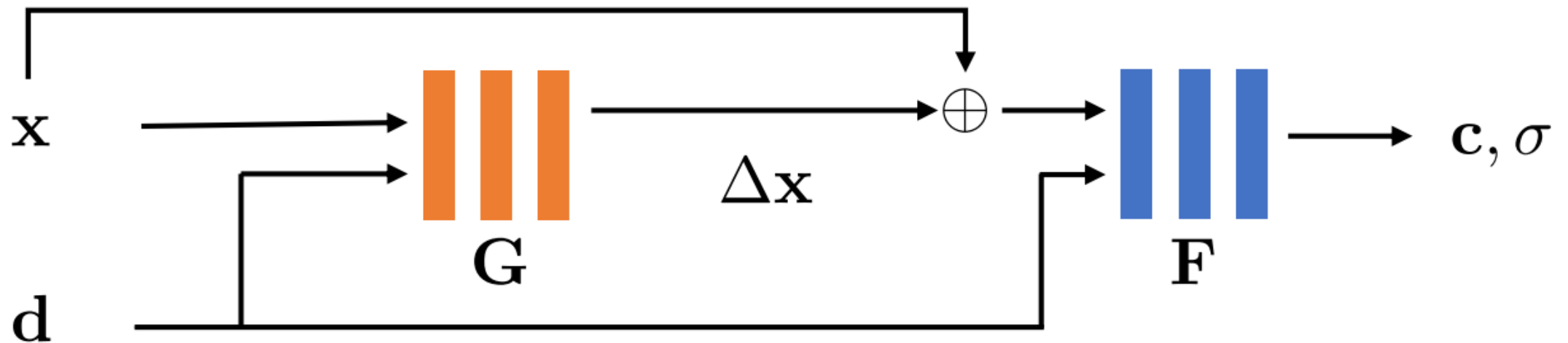


Neural Radiance Field with Refraction

Zhangkaiwen Chu

IB-NeRF

- Neural Radiance Field assumes light travels in a straight line, so it is bad at learning specular and refractive effect.
- IB-NeRF use a neural network to learn an offset field to model the light bending.



Results



NeRF with positional encoding



NeRF without positional encoding

Results



IB-NeRF without positional encoding



NeRF without positional encoding

Future Milestones

11/16 – 11/28: improve python implementation

- Positional Encoding
- Hyperparameter tuning

11/28 – 12/11: work on CUDA

- Tiny CUDA Neural Networks
- Instant Neural Graphics Primitives