

## Pre-Class Assignment 2

Reading Material 1: **The Lumigraph**

Question 1:

Briefly explain *basis function* mentioned in section 2.3 and how it effects the continuity of reconstructed Lumigraph.

Reading Material 2: **SIGNET**

Question 2:

What are the benefits of using SIGNET as the representation of light field according to your understanding?

Reading Material 3: **NeRF**

Question 3:

What problem is *NeRF* trying to solve? Give a brief description.

Question 4:

Name three technologies that *NeRF* used. Give a brief description to each one of them. (You can think of technologies as algorithms which have input and output).

Link:

1. <https://www.microsoft.com/en-us/research/wp-content/uploads/2016/02/Gortler-SG96.pdf>
2. [https://openaccess.thecvf.com/content/ICCV2021/papers/Feng\\_SIGNET\\_Efficient\\_Neural\\_Representation\\_for\\_Light\\_Fields\\_ICCV\\_2021\\_paper.pdf](https://openaccess.thecvf.com/content/ICCV2021/papers/Feng_SIGNET_Efficient_Neural_Representation_for_Light_Fields_ICCV_2021_paper.pdf)
3. <https://arxiv.org/pdf/2003.08934.pdf>

Optional Reading Material:

4. Unstructured Lumigraph Rendering  
<http://cs.harvard.edu/~sjg/papers/ulr.pdf>
5. Learning Neural Light Fields with Ray-Space Embedding  
<https://arxiv.org/abs/2112.01523>
6. Volume Rendering Digest (for NeRF)  
<https://arxiv.org/pdf/2209.02417.pdf>