Lecture 4 Report Requirement

The report should contain 3 parts:

1. **For each non-optional reading, identify ONE major contribution or limitation and defend your choice. (½ page max)**
2. **For each non-optional reading, describe an idea of yours that extends the paper and elaborate as much as possible. (½ page max)**
3. **Answer the questions below.**

For the first two parts, the discussion must have depth (good examples posted on piazza and baidu pan).

Send your report in PDF format to 1430090453@qq.com, named as "report4_[first name][last name].pdf" (e.g., report4_ZhangChen.pdf). The report is due on 10 am, China Standard Time, April 2, 2020.

Report Questions:

"The Light Field Camera: Extended Depth of Field, Aliasing, and Superresolution"

1. What is the different between plenoptic camera and camera array?
2. What is the main idea of light field super-resolution?
3. Briefly explain how can we infer the disparity map s in the model $l = H_s r + w$.
4. Briefly explain why minimize $E_{data}(s)$ may cause incorrect depth estimates around areas of high-spatial frequency in the scene.
5. List at least one limitation of the light field camera.

"Synthetic Depth-of-Field with a Single-Camera Mobile Phone"

6. Why do they use dual-pixel (DP) auto-focus hardware?
7. What's the usage of person segmentation?
8. What's the algorithm for computing a dense depth map?
9. What's their rendering algorithm?
10. What are the 3 pipelines in the system?