ASSIGNMENT 3: INTRODUCTION TO PYTORCH3D

In this class, we will learn about PyTorch3D, our chosen platform to conduct experiments and research on AI Graphics during this course, including the assignments we will work on the next weeks.

The goals of this practice are the following:

- Get more familiarization with the tools used for AI Graphics
- Understand what PyTorch3D is and how it can help us on this course
- Get familizarization with PyTorch3D's components
- Practice operations with 3D vertices and Projective Geometry

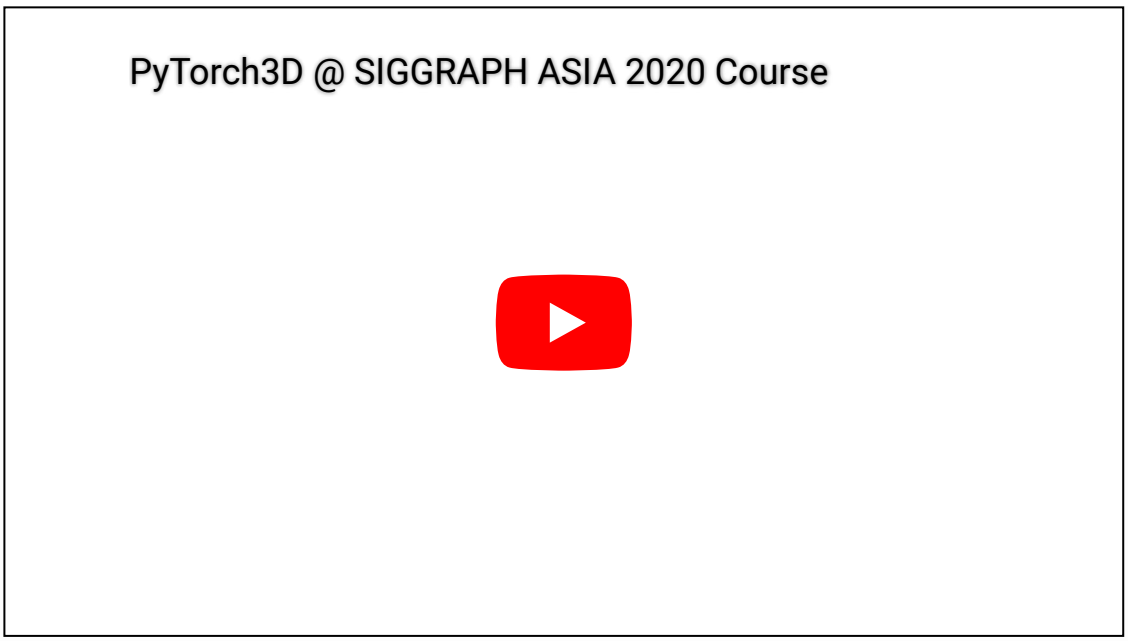
Instructions and submission:

We provide you a demo in Google Colab for you to experiment and test some of the possibilities with PyTorch3D. To use Google Colab, you just need to have a google account and an associated Google Drive. You can make a copy of the notebook located below and modify it if you wish.

Although there is a challenge in the end of the notebook, you are not required to deliver anything as assignment this time. We recommend you study the references below and ask us any questions if you have doubts.

References

1. PyTorch3d website: https://pytorch3d.org
2. Nikhila Ravi; Jeremy Reizenstein; David Novotny; Taylor Gordon; Wan-Yen Lo; Justin Johnson; Georgia Gkioxari. Accelerating 3D Deep Learning with PyTorch3D. arXiv:2007.08501, 2020. 2.1 Slides: https://slideslive.com/38942461
3. PyTorch3D Demo on Google Colab.
4. An Introduction to PyTorch3D. SIGGRAPH Asia 2020 course



3dsystems23

3dsystems23

Assignments and Notes for the course 3D Graphics Systems @IMPA 2023