Project 3 Writeup

Instructions

- Provide an overview about how your project functions.

- Describe any interesting decisions you made to write your algorithm.

- Show and discuss the results of your algorithm.

- Feel free to include code snippets, images, and equations.

- List any extra credit implementation and result (optional).

- Use as many pages as you need, but err on the short side.

- **Please make this document anonymous.**

Project Overview

In this project, we worked on the process of 3D reconstruction from 2D images. There were 4 tasks, involving computing projection matrix, write RANSAC algorithm to choose the best fundamental matrix, 2d to 3d reconstruction and of course the fundamental matrix estimation. Among which I found the first one and the last one to be the most difficult one but the workshop and the interactive tool has been very useful. No extra credit work is done.

Implementation Detail

- For the RANSAC: I am surprised by how well RANSAC works and find it to be a very helpful method to chose the best matrix. In the experiments I had, I find that the more iterations we have, the better result we got.

- Attached is my 3D reconstruction of cards (Figure 1). There are some mismatches but we can see RANSAC already helped us avoided many of them, For improvement, maybe we can have more samples images.
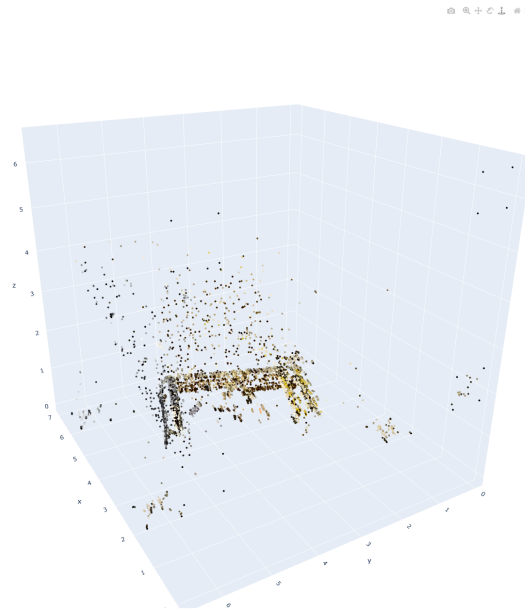
Figure 1: *Cards:* My reconstruction