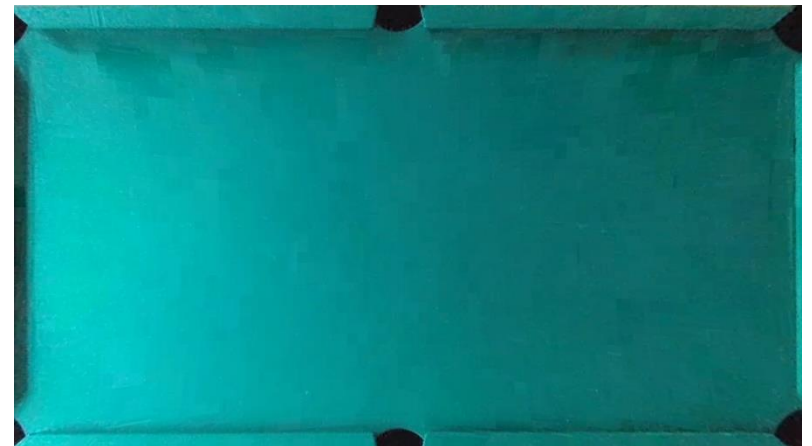# Practical Course AI
Status Sprint 5

2020/12/07

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Data Collection (ZC, SG)

- Visited lab on Thursday

- Images of checkerboard pattern in long version

- Calculation of intrinsics and distortion

```
5    ##camera matrix
6    cammtx = np.array([[661.36745612, 0, 626.09553138],[0, 663.35892418, 354.8585088 ],[0, 0, 1]])
7
8    ##distortion coefficient
9    distco = np.array([-3.52903264e-01, 1.65315869e-01, -3.39131620e-04, -1.64084879e-06,-4.30240406e-02])
```
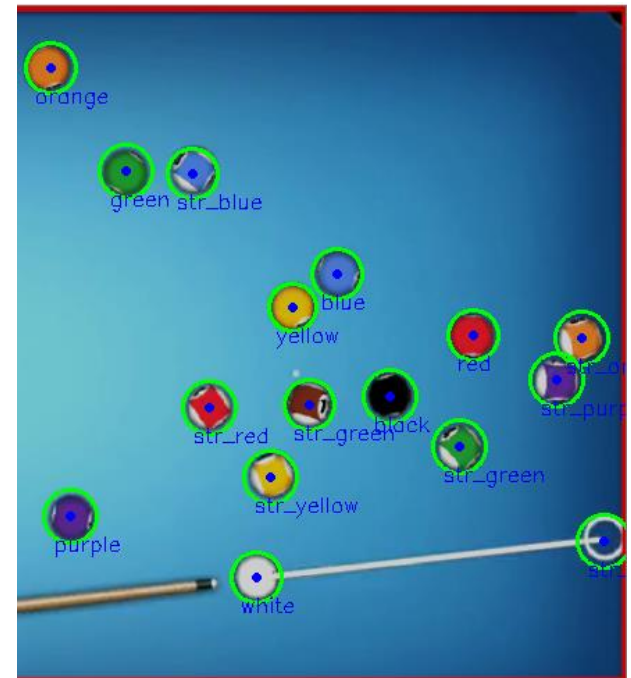
Rendering (SG)

- Video of animated balls

Preprocessing (AN, TM)

- Refined HSV color ranges for color detection
- Affine transformation to real table dimensions
- Added logic for solid vs stripe classification
- Solid/Stripe classification:
  - Clustering approach
  - Approach based on histogram modes/ratios

ML Model (SB)

- Worked on torch code and added workflow with args parser

- Started implementing and testing inference mode for when a trained model is available

Outlook

- Data collection
- Cut video into small sequences
- Parametrize classification based on recordings
- Add tracking/filtering of ball classification
- Create dataset from preprocessed sequences
- First trainings with LSTM model on real data
- Improve billiard table rendering