CMP9135M — Computer Vision

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***Abstract*—**
***Index Terms*—**

Task 1 — Image Processing

Task 1.a — Automated ball objects segmentation

Task 1.b — Segmentation evaluation

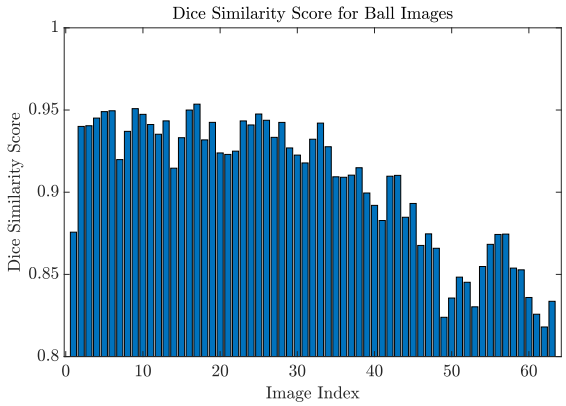

Fig. 1. Dice Similarity score for all 63 images

Task 2 — Feature Calculation

Task 2.a — Shape features

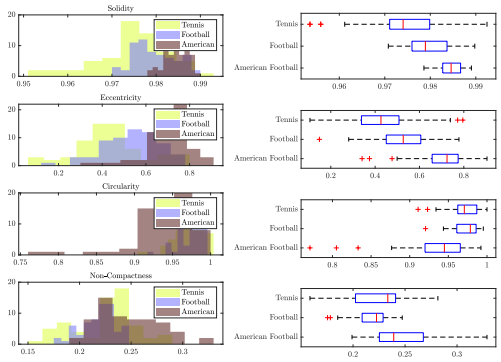

Fig. 2. Shape features

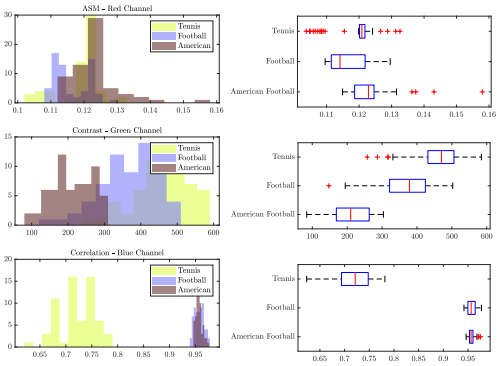

Fig. 3. Texture features Averages

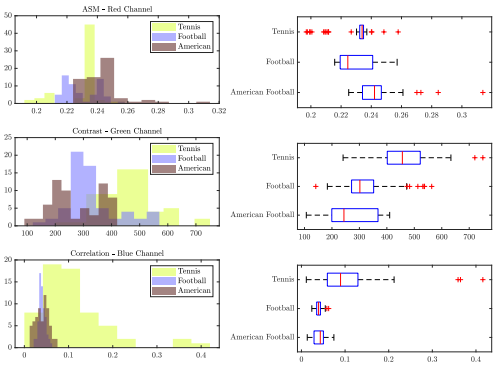

Fig. 4. Texture features Ranges

Task 2.b — Texture features

Task 2.c — Discriminative information

Task 3 — Object Tracking

Task 3.a — Kalman filter tracking

Task 3.b — Evaluation

Appendix

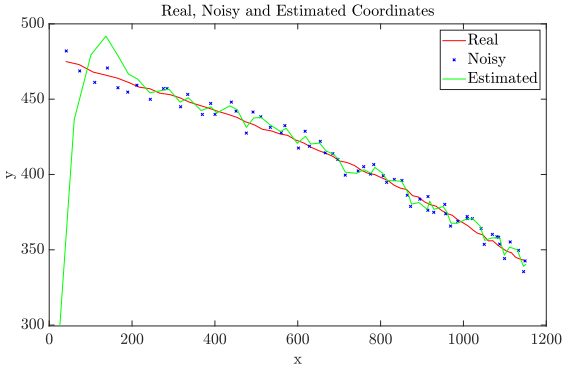

Fig. 5. plot of the estimated trajectory of coordinates $[x, y_]$, together with the real $[x, y]$ and the noisy $[na, nb]$ for comparison

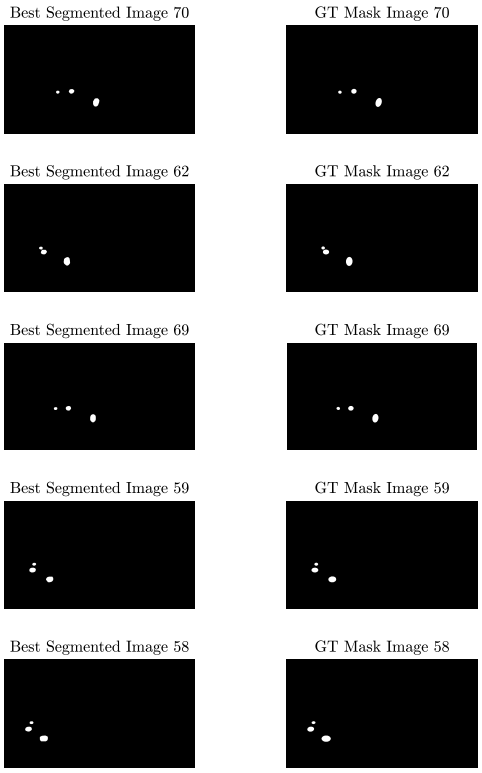

Fig. 6. Best 5 segmented ball images compared to the ground truth

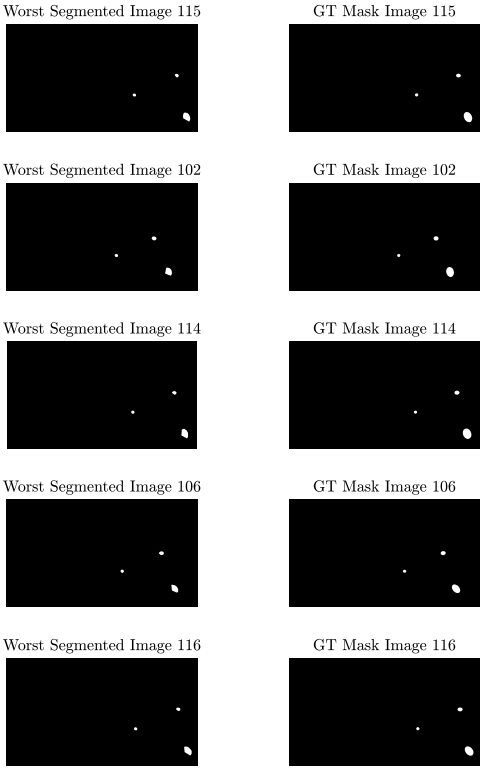

Fig. 7. Worst 5 segmented ball images compared to the ground truth