

# Computer Vision

## Spring 2019

### Problem Set #5

First Name Last Name

Email Address

# 1b: KF Tracking a circle



ps5-1-b-1

# 1b: KF Tracking a circle (cont.)



ps5-1-b-2

# 1b: KF Tracking a circle (cont.)



ps5-1-b-3

# 1b: KF Tracking a circle (cont.)



ps5-1-b-4

# 1c: KF Tracking pedestrians



ps5-1-c-1

# 1c: KF Tracking pedestrians



ps5-1-c-2

# 1c: KF Tracking pedestrians



ps5-1-c-3



# 1c: KF Tracking pedestrians



ps5-1-c-4

## 2a: PF Tracking a circle



ps5-2-a-1

## 2a: PF Tracking a circle (cont.)



ps5-2-a-2

## 2a: PF Tracking a circle (cont.)



ps5-2-a-3

## 2a: PF Tracking a circle (cont.)



ps5-2-a-4

## 2b: PF Tracking noisy video



ps5-2-b-1

## 2b: PF Tracking noisy video (cont.)



ps5-2-b-2

## 2b: PF Tracking noisy video (cont.)



ps5-2-b-3



## 2b: PF Tracking noisy video (cont.)



ps5-2-b-4

# 3a: PF Changes in Appearance



ps5-3-a-1

# 3a: PF Changes in Appearance (cont)



ps5-3-a-2

# 3a: PF Changes in Appearance (cont)



ps5-3-a-3

# 4a: PF Occlusions



ps5-4-a-1

## 4a: PF Occlusions (cont.)



ps5-4-a-2

## 4a: PF Occlusions (cont.)



ps5-4-a-3

## 4a: PF Occlusions (cont.)



ps5-4-a-4



# 4: Text response

Describe what you did. How did you modify the Particle Filter class to continue tracking after occlusions?

I think

my answer is ...

# 5: Tracking multiple targets



ps5-5-a-1

## 5: Tracking multiple targets (cont.)



ps5-5-a-2

## 5: Tracking multiple targets (cont.)



ps5-5-a-3

# 5: Text response

Describe what you did. How different it was to use a KF vs PF? Which one worked best and why? Include details about any modifications you had to apply to handle multiple targets.

I think

my answer is ...

# 6: Challenge Problem



ps5-6-a-1

## 6: Challenge Problem (cont.)



ps5-6-a-2

## 6: Challenge Problem (cont.)



ps5-6-a-3



# 6: Challenge Problem Text response

Describe what you did. Did this task present any additional challenges compared to the previous sections? Include details about any modifications you had to apply.

I think

my answer is ...