

FACULTY MENTOR

Xiaolong Wang

PROJECT TITLE

Compositional Action Recognition

PROJECT DESCRIPTION

Description: Human action is naturally compositional: human can recognize and perform the same action while operating different tools and objects. The goal is to explore this compositionality in videos via graph-based and modular networks.

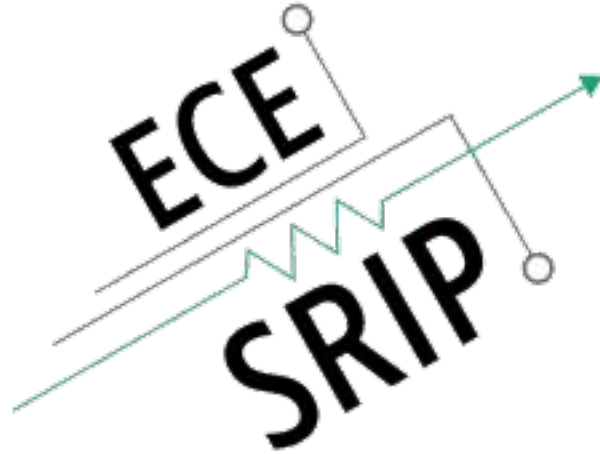
INTERNS NEEDED

3 MS

PREREQUISITES

Required Qualifications:

1. Must have taken computer vision classes
2. Experience in deep learning projects
3. Experience in video recognition tasks, tried models like I3D or TSN



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PROJECT TITLE

Functional Grasping

PROJECT DESCRIPTION

Description: The goal is to imitate how human hand perform interactions with objects based on the object function / affordance. With imitation learning, we can guild robot hand in simulation to perform similar (functional) grasp and perform downstream tasks after.

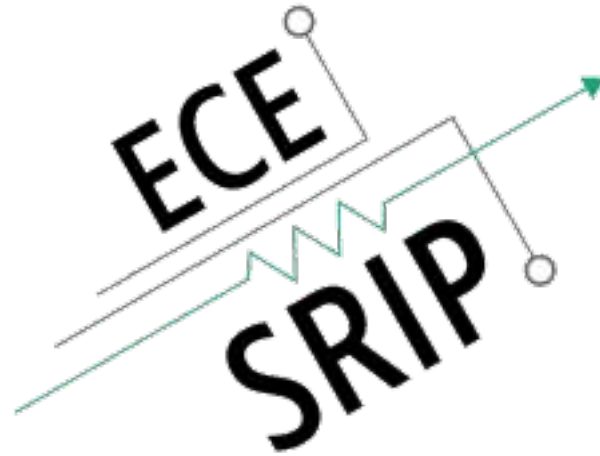
INTERNS NEEDED

3 MS

PREREQUISITES

Required Qualifications:

1. Must have taken computer vision classes and deep reinforcement learning classes
2. Experience in deep learning projects
3. Experience in mujoco / vrep simulators



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PROJECT TITLE

Video Editing and Synthesis

PROJECT DESCRIPTION

Description: The goal is to design a video synthesis or generative model which can allow video retargeting with only a few examples, or propagate video editing from the first frame to the following frames.

INTERNS NEEDED

3 MS

PREREQUISITES

Required Qualifications:

1. Must have taken computer vision and computational photography or signal processing classes
2. Experience in deep learning projects, especially in training GANs.