

FACULTY MENTOR

Tara Javidi

PROJECT TITLE

DetecDrone: DRONES THAT THINK. Using AI-enabled drones to augment human vision & senses

PROJECT DESCRIPTION

Description: Throughout history, the bird has been man's best friend. Indeed, the metaphor of an assistive flying creature, equipped with eyes, ears, and a nose to expand human senses goes back centuries and remains a prevalent motif of 21st century science-fiction pop culture like Peter Pan's TinkerBell, fueling a myriad of new drone-based consumer technology. As the Cheyenne Native American legend goes, the hawk's guidance allowed the once hunted and inferior human race to gain the respect of all animals and to climb to the top of the food chain. Our soaring bird is just the same. Well, almost. DetecDrone utilizes state of the art algorithms and solutions in computer vision, active learning, and data-driven optimization and control methods on various drone platforms in order to augment, expand, and enhance our human senses and cognitive abilities in various scenarios. From elderly care to precision livestock management to search and rescue, DetecDrone provides an intelligent unmanned aerial platform for sensing and information acquisition, and analytics. Once amplifying human dominance, our fellow flying friends now amplify human senses like never before. Explore our webpage for demos, projects, and publications showcasing DetecDrone.

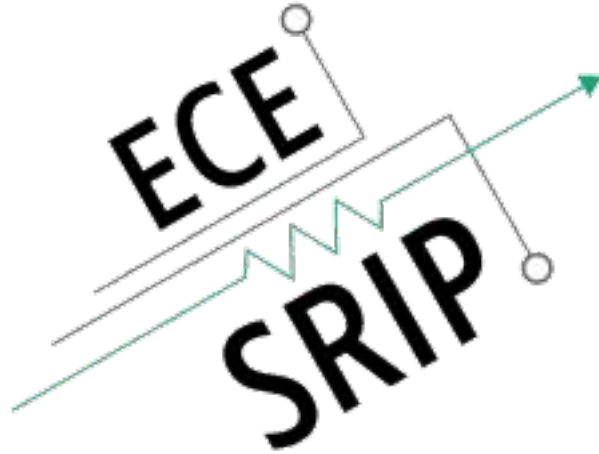
INTERNS NEEDED

1-2 BS and 1-3 MS

PREREQUISITES

Required Qualifications:

1. Students must have taken ECE 101 and ECE 109



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PROJECT TITLE

Mathematical Underpinning of Information Acquisition Systems

PROJECT DESCRIPTION

Description: The new generation of AI algorithms allow a great degree of freedom over the collection of data both during training and inference. The project is focused on information theoretic methods to optimize the data acquisition process.

INTERNS NEEDED

1 BS and 1 MS

PREREQUISITES

Required Qualifications:

1. Students must have taken ECE 101 and ECE 109
2. Preferred students that have taken either ECE153 or ECE159 or ECE161