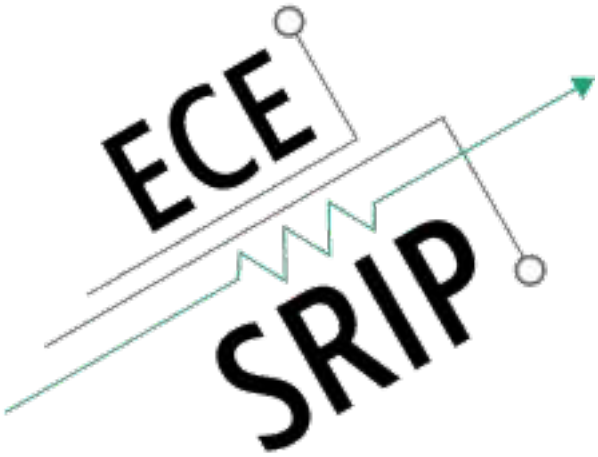


FACULTY MENTOR
Curt Schurgers

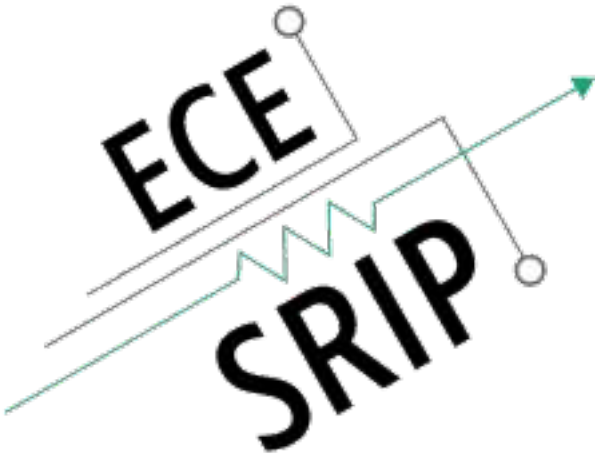
PROJECT TITLE
Engineers for Exploration

PROJECT DESCRIPTION
Description: Engineers for Exploration, or E4E, (http://e4e.ucsd.edu) is a one of kind program promoting multidisciplinary and collaborative research projects with the broad goals of protecting the environment, studying wildlife, uncovering mysteries related to cultural heritage, and providing hands-on learning experiences for undergraduate students. We team student engineers with scientists from a wide range of disciplines to create innovative technologies that are deployed around the world. Our projects have seen us collaborate with scientists at San Diego Zoo Global, Scripps Institution of Oceanography, National Geographic and various other institutions. Our goal is to develop prototype systems that are then jointly deployed in the field, providing the engineers with the real constraints of practically deployable systems and the domain scientists with the new technological tools they critically need. Last year, students worked on projects including machine learning on aerial footage and audio clips, VR visualizations, wildlife radio telemetry tracking, image processing for tracking baboons, and more.

This project can accommodate both remote and in-person students.

INTERNS NEEDED
5 Students

PREREQUISITES
1. We place a high value on prior experience, specifically related to system building and advanced software development. This could be, for example, working with machine learning, embedded software (e.g. Raspberry Pi, Jetson, etc.), SLAM algorithms, virtual reality systems, etc.



FACULTY MENTOR
Curt Schurgers

PROJECT TITLE
Building a New Student Response System

PROJECT DESCRIPTION
Description: Student response systems can help build a richer learning environment. However, in less developed nations, students do not have the means or opportunity to purchase dedicated devices such as iClickers. In addition, WiFi access is often unreliable in classrooms there and students are hesitant to use their data plans, which means that online student response systems won't work either. Instead, we want to build a system where a Raspberry Pi or Beaglebone acts as a standalone WiFi basestation and as the central hub for the response system, while students connect to it using their smart phone. The challenge is to have our device act as a basestation, run a local webserver and to develop the website functionalities. We've seen firsthand how there is a need for a system like this and believe it can have a big impact on education in developing nations.

This project will be in person.

INTERNS NEEDED
4 Students

PREREQUISITES
1. The ideal candidate has experience with Raspberry Pi or Beaglebone (or similar device), Apache, PHP, mySQL, JavaScript, web applications, Firebase, etc.