

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, Ithaca college Archaeology, and National Geographic. 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 drone based ecological classification and machine learning, 3D mapping for archaeological sites and VR visualizations, wildlife radio telemetry tracking, image processing for tracking baboon movements from aerial footage, and embedded systems design of a reef sensor.

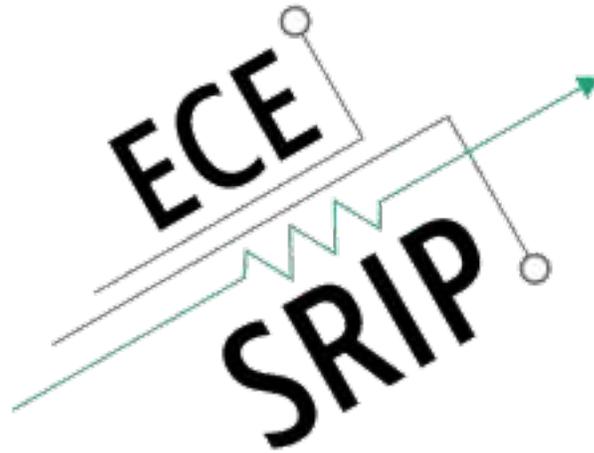
INTERNS NEEDED

8 BS or MS

PREREQUISITES

Required Qualifications:

1. Prior experience related to system building and advanced software development. This could be, for example, working with robotics, embedded software (e.g. Raspberry Pi, Jetson, etc.), electronics, machining, machine learning, SLAM algorithms, virtual reality systems, etc



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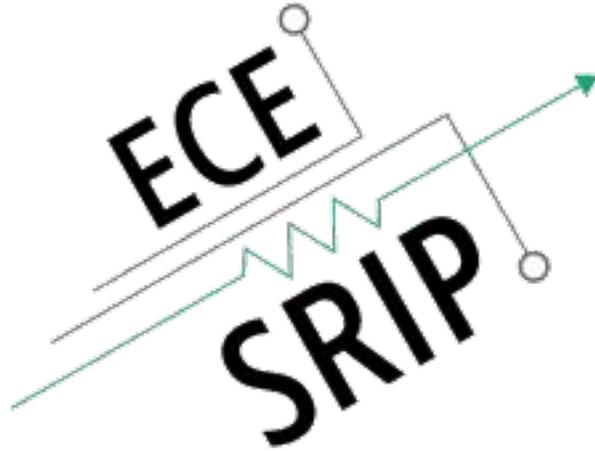
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PROJECT TITLE

Development of educational technologies

PROJECT DESCRIPTION

Description: Technologies, such as student response systems or only HW sites, can help build a richer learning environment. The goal of this project is to explore a set of different tools and systems. For example, we are building a student response 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. This system will need to be expanded and make more robust, as well as scalable. Other related technologies will be integrated as well. This involves both front-end and back-end software development.

INTERNS NEEDED

2 BS

PREREQUISITES

Required Qualifications:

1. Experience with Raspberry Pi or Beaglebone, Apache, PHP, MySQL, Java, web applications, etc