

**Faculty Member Contact Information**

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<b>Department</b>	Management & Marketing

**1 Funded, Unfunded URCA Assistant**

	This position is <b>ONLY</b> open to students who have declared a major in this discipline.	<b>M</b>
	This project deals with social justice issues.	
<b>X</b>	This project deals with sustainability (green) issues.	
<b>X</b>	This project deals with human health and wellness issues.	
	This project deals with community outreach.	
<b>X</b>	This mentor's project is interdisciplinary in nature.	<b>I</b>

**Are you willing to work with students from outside of your discipline? If yes, which other disciplines?**

Yes

**How many hours per week will your student(s) be required to work in this position?**

(Minimum is 6 hours per week; typical is 9)

9

**Will it be possible for your student(s) to earn course credit?**

**Location of research/creative activities:**

Department of Management & Marketing

### **Brief description of the nature of the research/creative activity?**

Wildfire incidents in the U.S. rose from 58,100 in 2018 to 69,000 in 2022, disrupting supply chains and causing massive damage to infrastructure and the environment. In California alone, wildfires between 2017 and 2021 led to an average annual economic loss of \$117.4 billion.

Traditional disaster response focuses on recovery, but the growing frequency and severity of wildfires call for proactive solutions. This project uses satellite imagery with AI and machine learning to build a wildfire prediction system for:

Short-term alerts – rapid warnings during the “golden time”

Long-term monitoring – continuous tracking and prevention

Satellite data provides real-time insights, enabling quicker detection and more accurate forecasting than traditional systems. The project also evaluates the cost-effectiveness of using AI for wildfire prediction and monitoring.

### **Brief description of student responsibilities?**

- Literature Review: Conduct background research on Multi-Modal AI/ML models, and related topics to support project development.
- Data Collection & Preprocessing: Assist in gathering satellite imagery and other relevant data; help clean, organize, and prepare datasets for analysis.
- Visualization & Reporting: Create charts, graphs, and summary reports to communicate findings clearly; assist in preparing research presentations or publications.
- Regular Meetings: Attend weekly or bi-weekly team meetings to discuss progress, challenges, and next steps.

**URCA Assistant positions are designed to provide students with *research or creative activities* experience. As such, there should be measurable, appropriate outcome goals. What exactly should your student(s) have learned by the end of this experience?**

- Apply AI/ML techniques and imagery analysis to understand.
- Collect, preprocess, and analyze real-world data, gaining hands-on experience with remote sensing and geospatial datasets.
- Communicate research findings effectively through reports, visualizations, and presentations tailored to both technical and general audiences.
- Collaborate in research as a team, contributing to literature reviews, model development, and regular project discussions.

### **Requirements of Students**

**If the position(s) require students to be available at certain times each week (as opposed to them being able to set their own hours) please indicate all required days and times:**

Since this project involves AI/ML, we can only hire students who are proficient in Python programming.

**If the location of the research/creative activities involves off campus work, must students provide their own transportation?**

No.

**Must students have taken any prerequisite classes? Please list classes and preferred grades:**

**Other requirements or notes to applicants:**

Since this project involves AI/ML, we can only hire students who are proficient in Python programming.