Research Assistant
Curbing Illegal Fishing Initiative

Are you interested in the intersection of ocean science and policy and want to be part of building solutions for current and future ocean issues? If so, the Stanford Center for Ocean Solutions, an initiative of the Stanford Woods Institute for the Environment, invites you to apply as a Research Assistant.

The Stanford Center for Ocean Solutions (COS) catalyzes research innovation and action to improve the health of the oceans for the people who depend on them the most. COS capitalizes on Stanford’s broad expertise in ocean science and in the many other disciplines crucial to developing ocean solutions including engineering, computer science, political science, design and business. Our core team of researchers and fellows partner with other research institutions, national and international non-governmental organizations, businesses and governments, as well as established and emerging leaders in the data revolution.

Project Description
Illegal, unreported and unregulated fishing (IUU) contributes 10–30% of seafood in the market, jeopardizing livelihood of three billion people who rely on fisheries while aggravating modern slavery problems. We have started understanding fishing activities through automated identification system (AIS), which provides locations of fishing vessels at high frequencies. However, many fishing vessels are undetectable—they can “go dark” by turning off the AIS device, and small fishing boats are not required to carry the device. To create a comprehensive picture of the fishing landscape and potential IUU activities, we aim to characterize activities of fishing vessels that are not recorded by AIS using satellite imagery. The project involves analysis of port usage by vessels under 300 gross tonnages and characterization of dark vessel behavior through image analysis in combination with AIS data.

Job Duties
The primary responsibility of the Research Assistant is to support the Data Scientist, Research Manager, and existing Research Fellows through research, synthesis, writing, referencing, and organizing.

Specific tasks include:
- Synthesize research findings
- Assist with project research through satellite image analysis and statistical analysis
- Join calls and discussions with working group partners, taking notes as needed
- Aid in developing and refining figures, graphics, and narratives to convey targeted messages for report
Qualifications
We seek a detail-oriented, self-starting undergraduate or master’s student with the following interests and experience:
- Strong interest in a data science approach to ocean solutions
- Basic knowledge on machine learning and computer vision (familiarity with deep learning and/or OpenCV a plus)
- Proficiency in Python
- Basic knowledge on statistics and familiarity with statistical software environments
- Strong communication skills
- Attention to detail in organizing research and work products

Start Date and Working Hours
This position requires a 10-week commitment of 10–20 hours per week, beginning in mid-June. Start date and working hours are negotiable. The contract can be extended based on performance as well as project needs and funding.

Location
This position will be based at the Center for Ocean Solutions office at Stanford University (Palo Alto). Some work can be done remotely, yet an essential function of the position is to be available for regular in-person meetings.

To apply: Please email 1) a letter of interest providing background on your experience and applicable skills; and 2) a resume outlining your education and professional experience; to: Shinnosuke Nakayama, Stanford Center for Ocean Solutions: shinn1@stanford.edu. Please feel free to contact if you have any questions.

Deadline: The position will remain open until filled.