The John Muir Trust
Wild Places Project Researcher

TINDSG-003

#machinelearning #datastudygroup

About the Organisation

The John Muir Trust is a community focused conservation charity dedicated to the experience, protection and repair of wild places across the UK. Founded in 1983, we care for some of the finest wild places in the UK, including Ben Nevis, Helvellyn, Skye and Sandwood Bay. Over 25,000 members, supporters and partners contribute to our work.

Through collaboration with local partners, the John Muir Trust works towards landscape-scale restoration of natural processes; the expansion of native woodlands, the nurturing of rare mountain plants, and on footpath repair through some of the country's wildest places.

The John Muir Trust believes that by inspiring and connecting people with wildness, this engenders a desire to protect and conserve some of the most beautiful landscapes in the world while repairing and rewilding for future generations to enjoy.

Role Description and Responsibilities

The John Muir Trust wants to understand the extent and condition of the UK's wild places and to share this data through the production and interpretation of a wild places register and wild places standard. As part of this project, we want to develop wild place criteria, which would give objective relevance to different expressions of wild places (e.g. ecological, experiential, physical, societal). We envisage the criteria and the register would be created with input and collaboration from a wide range of data sets and engagement with a wide sector of society. Once created, we hope the register and its interpretation will encourage more people to identify wild places, think more about their condition and learn what they can do to protect them.

The Trust has previously commissioned maps of relative wildness to inform its work and the identification of 42 Wild Land Areas by Scottish Natural Heritage (now NatureScot) in 2014 provides a starting point. These maps have assessed the degree of wildness by looking at the strength of four physical attributes. Whilst this method does a good job of picking out areas according to physical qualities, it has its limitations. The 42 mapped Wild Land Areas have resulted in a binary illustration of wild areas whilst in reality, wild is a continuum beyond the mapped area. The four attributes also focus largely on physical appearance of a landscape, which means wild places that feel important to people are overlooked. Similarly, small, and not necessarily remote wild places that are important for biodiversity or ecosystem services may also be missed.

TIN + DSG
Spring 2022

The John Muir Trust plans to develop an exciting new approach to understanding wild places. This project will explore and develop a new scientific process for understanding the data behind wild places, that considers the broad range of physical and social criteria that makes a place wild. We have initiated a focused Wild Places Project Team who meet regularly to work on this development phase. The intern will be a central part of this new team and be key in helping to define and develop both physical (by mapping) and social (with stakeholders) criteria, through an iterative process.

The Trust has access to an array of social and physical datasets for this challenge. These include GIS maps of the UK and national datasets on wild land areas, habitat condition surveys, noise and light pollution, and public perception surveys. We have additional data on the land the Trust manages, and we can engage with our membership base of around 11,000 individuals to gather knowledge about specific locations. There will also be the opportunity for the intern to visit some of the beautiful sites managed and cared for by the Trust, to gain a better understanding of our work.

The intern will be responsible for exploring inclusive approaches for collating these data sources and using them to help the Trust classify the nature, condition, and extent of wild places. We would also like the intern to evaluate the potential of incorporating satellite imagery and computer vision techniques for this task.

The internship will be instrumental in the preparation of a Data Study Group challenge that will develop and verify the promising research avenues identified by the intern, aiming to produce an algorithm capable of classifying the wild status of the whole of the UK. The intern will have the opportunity to represent the organization during the Data Study Group.

Expected Outcomes

The successful completion of this challenge would raise the profile of the UK's wild places as a key solution to the climate and biodiversity crises and raise awareness of wildness and its benefits through ecosystem functions and services, nature-based solutions and human experience and engagement with wild places. Wild places have huge mental and physical benefits for large sections of society. Engaging with society through this work will help all recognise and value wild places for all.

From an operational perspective for the Trust, the successful completion of this project would allow us to use the dataset and register of wild places to target interventions, such as purchasing land, engaging with communities, and developing/enforcing standards & policy. With these tools we would drive up the standard of wild places benefitting wild places and society.

Supervision and Mentorship

The Intern would be directly line managed by the Research & Data Manager and part of the Wild Places Register team supported by the Director of Policy, Senior Policy Officer and other staff. The intern would be part of the wider Trust team and be invited to attend staff meetings and gatherings.

Ideal Intern

We would benefit from an intern that would provide a fresh perspective and scientific expertise with experience working with large datasets and maps.

The ideal candidate will have:
- Strong interpersonal skills and innovate problem solving abilities
- Ability to take initiative in their work

Any experience working with the following would also be advantageous:

GIS, maps, and spatial analysis

- Computer vision
- Satellite imagery.
- Experience combining and extracting insights from disparate datasets.

Internship Logistics

The salary is £30,000 p/a pro rata.

Location: The Intern will have the choice to work remotely or work at one of our offices in Edinburgh or Pitlochry.

Internship duration: 6 months

Start date: September 2022

Hours: Full time, but flexible working available subject to discussion

Point of contact: cristin.lambert@johnmuirtrust.org

Equipment: Intern will be provided with a new laptop and monitor for the duration of their time with the Trust.