



Making the Most of Masters

MASTS - Making the Most of Masters – Project Proposal Form

Name and address of Organisation: Scottish Environment Protection Agency
Name of the key contact in Organisation: Roisin Murray-Williams/Malcolm Baptie
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Title of proposed project: Biotope identification using supervised machine learning
Project outline and intended outcomes: <p>SEPA regulates salmon farms in Scotland. One of the requirements farm operators must comply with as part of their license conditions is to provide visual surveys along transects around pen groups. This is currently reviewed by staff watching videos and determining the identity and extent of biotope types. This is skill and labour intensive and difficult to submit to quality control.</p> <p>Consequently SEPA is interested in exploring the viability of applying a machine learning/artificial intelligence model to these videos in order to assess biotope extent. The student would be given access to a large library of video footage and existing scored outputs from human analysis. The intended outcome would be a trained model which can then be tested and validated on new footage.</p>
Any additional comments e.g. details of specific disciplines required, methods to be used, travel involved, where the work would take place (i.e. at the host site or at the University), whether you foresee any Intellectual Property or confidentiality issues (and if so, what form might these take?): <p>Students should be literate in computer programming languages (e.g. Python, R), work could be done entirely remotely.</p> <p>Any model output that could become a regulatory tool in use by SEPA would require open IP.</p> <p>Any model output would need to be able to be run by SEPA staff internally so constraints around computational resources available need to be taken into consideration.</p>