UNIVERSITY OF Southampton

ERGO Animal application form – Ethics form

All mandatory fields are marked (M*). Applications without mandatory fields completed are likely to be rejected by reviewers. Other fields are marked "if applicable". Help text is provided, where appropriate, in italics after each question.

1. APPLICANT DETAILS

1.1 (M*) Applicant name and email:	Rohan Bungre (rsb1g17), Aran McConnell (ajm2g17), Yue Kew (ysk2a15), Charlie Steptoe (cs5n17)
1.2 (M*) Supervisor name and email:	Dr Srinandan Dasmahapatra - sd@ecs.soton.ac.uk
1.3 Other researchers/collaborators and external personnel involved in study (if applicable): *Name, address, email, telephone*	Mafic Ltd, Woodford Green, Essex

2. STUDY DETAILS

2.1 (M*) Title of study:	Recognising Activities of African Wild Dogs using Machine Learning
2.2 (M*) Type of study (*e.g. Undergraduate, Doctorate, Masters, Staff*):	Undergraduate
2.3 i) (M*) Proposed start date (allow at least 1 month):	19/11/2020
2.3 ii) (M*) Proposed end date:	14/01/2020

2.4 (M*) What are the aims of this study?
To collect training and test data, in order to develop and Artificial Intelligence model that can recognise the activities of African Wild Dogs.

2.5 (M*) What are the objectives of this study?
To collect accelerometer and gyroscope data from a device attached to a dogs collar, whilst the dog carries out a range of standard behaviours. To record video of the dog performing these behaviours. To collect this data for a number of dogs to build up a good dataset. Finally, to use the video to label the recorded data and thus use It to train and test an Artificial Intelligence model.

2.6 (M*) Background to study (*a detailed and thorough rationale for conducting the study, listing all relevant publications*)**:**
This project involves working with an external company, Mafic Ltd, who have been approached by the makers of a TV documentary on African Wild Dogs. They want to use a device attached to the dog's collar, giving accelerometer readouts, to understand the

behaviour of the dogs. Using the readouts from the device and a Artificial Intelligence framework, different common activities of the dogs should be recognised and aid in understanding the behaviour of these dogs.
To develop the Artificial Intelligence framework for this solution, we are using similar data from large domestic dogs to train the framework, as it is not possible to collect such data from African Wild Dogs. The behaviour of such large dogs should be similar enough to get a model of a reasonable accuracy. To train this model we need to collect data from domestic dogs, whilst carrying out basic tasks such as running, trotting, galloping, barking, sleeping, grooming, and eating. The dogs must be filmed for data collection, so the data can be labelling to each activity later on.

2.7 (M*) Has this work been done before? If so, what are you adding to previously published work?

Has not been carried out before to the best of our knowledge.

2.8 (M*) What are the benefits of this study?

When the Artificial Intelligence framework is complete is will act as a behavioural classifier to be used by documentary producers and conservationists.
The use of this will reduce unnecessary intrusion into wild habitats, and reduce the expenditure for documentary producers and conservationists by having to spend time in the field.

2.9 (M*) Study design and detailed protocol (*Give a clear detailed protocol*)
Outline what approach is being used, why certain methods have been chosen and include statistical design.

The approach used has been chosen to cause the least disruption to the subjects. The dogs will have a device attached their collar, but otherwise will be left to the control of the dogs owner.

3. SAMPLE AND SETTING

3.1 (M*) State numbers (or predicted numbers) to be used for study:

As many as practical in time frame, around 10-20

3.2 (M*) What species is the proposed sample and where is it located (e.g private land, university land, overseas, specific location)?

Private land likely, at the location of dog owning organisations. If that is not possible, an outdoor public space such a Southampton Common.
If this takes place on private land permission will be obtained from the owning organisation.

3.3 (M*) Are endangered or protected species involved (intentionally or possibly inadvertently)

No

3.4 (M*) If so has relevant permission and licence been obtained?

No relevant license, permission will be obtained from dog owners before any data collection occurs.

3.4 (M*) Please list and upload licences required and name of person holding it.

N/A

3.5 (M*) Which laws apply?

Animal Welfare Act 2006

3.6 (M*) What is the relationship between researchers and external funding organisation if any?

External organisation defines aims of the project.

4. RESEARCH PROCEDURES, INTERVENTIONS AND MEASUREMENTS

4.1 (M*) Give a brief account of the procedure as experienced by the participant *(Make clear who does what, how many times and in what order. Make clear the role of all assistants and collaborators.*

The researchers role in this is to attach the device to the dogs collar (this can also be done by the dog's owner if required), and to film the whole procedure.
The dog's owner will be tasked with persuading the dogs to carry out the specified activities, as described in section 2.6.
Once the collar is on the dog, and the researcher is filming, the dogs will be persuaded to carry out an activity "circuit" of all the required behaviours. This circuit will be repeated a number of times as long as time constraints allow this.

5. ANIMAL WELFARE

5.1 (M*) Will the animal be exposed to psychological or physical discomfort and/or distress?

Only to light discomfort of having a small device attached to their collar.

5.2 (M*) Explain how you intend to alleviate any psychological or physical discomfort and/or distress that may arise? (if applicable)

The device attached to the collar will be made as small and comfortable as possible.

5.3 Explain how you will care for any living organisms in the study (if applicable)?

Other than having the device attached to their collar, the Dogs will be left alone to be treated by the owner in the same manner as they normally would. As the device on the collar does not cause any suffering this should be sufficient.

5.4 What is the fate of the organisms at the end of the study?

They will be returned to their owners.

5.5 Have you undertaken any animal handling training (if applicable)?

No. This shouldn't be necessary as handling of dogs will be left to their owners.

5.6 (M*) How will data from this study be used? *Researchers should be aware of, and compliant with, the Data Protection policy of the University. You must be able to demonstrate this in respect of handling, storage and retention of data.*

The data will take the form of accelerometer and gyroscope readings with no identifiable components. These will be sent to a secure server and later downloaded on to personal

computers. The video component will be stored on password protected personal computers. The data will be used as described in section 2. Video will be deleted at the end of the project.

N.B. – Before you upload this document to your ERGO submission remember to:

1. Complete ALL mandatory sections in this form

2. Upload any letters of agreement referred, land permissions or licences required to undertake your study.