



Contribution ID: 29

Type: **Hackathon project proposal**

Classification of Order and Species of Mosquitoes

Friday, 4 October 2024 10:40 (20 minutes)

Conventional manual counting methods for the monitoring of mosquito species and populations can hinder the accurate determination of the optimal timing for pest control in the field. In this exercise is required to train a deep learning-based automated image analysis algorithm, for a two-fold task: the classification of different species and order of mosquito, based on a professionally made dataset of mosquitos photographs from multiple species.

Project proposal: general context

Deep Neural Network base don CNN architectures, multi-classification taks, application on medical physics

Project proposal: description of the problem

Analysis and preprocessing of the dataset (highly unbalanced among species), identification of the correct deep learning architecture, two tasks - two loss training, analysis of performances

Machine learning methods

CNN

Input dataset

input data in image format

Goal and FOM

confusion matrix, accuracy, precision, recall, F1 score

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Session Classification: Hackathon