

EGU22-4168

<https://doi.org/10.5194/egusphere-egu22-4168>

EGU General Assembly 2022

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



Extending Rapid Image Classification with the Picture Pile Platform for Citizen Science

Tobias Sturn, Linda See, Steffen Fritz, Santosh Karanam, and Ian McCallum

International Institute for Applied Systems Analysis

Picture Pile is a flexible web-based and mobile application for ingesting imagery from satellites, orthophotos, unmanned aerial vehicles and/or geotagged photographs for rapid classification by volunteers. Since 2014, there have been 16 different crowdsourcing campaigns run with Picture Pile, which has involved more than 4000 volunteers who have classified around 11.5 million images. Picture Pile is based on a simple mechanic in which users view an image and then answer a question, e.g., do you see oil palm, with a simple yes, no or maybe answer by swiping the image to the right, left or downwards, respectively. More recently, Picture Pile has been modified to classify data into categories (e.g., crop types) as well as continuous variables (e.g., degree of wealth) so that additional types of data can be collected.

The Picture Pile campaigns have covered a range of domains from classification of deforestation to building damage to different types of land cover, with crop type identification as the latest ongoing campaign through the Earth Challenge network. Hence, Picture Pile can be used for many different types of applications that need image classifications, e.g., as reference data for training remote sensing algorithms, validation of remotely sensed products or training data of computer vision algorithms. Picture Pile also has potential for monitoring some of the indicators of the United Nations Sustainable Development Goals (SDGs). The Picture Pile Platform is the next generation of the Picture Pile application, which will allow any user to create their own 'piles' of imagery and run their own campaigns using the system. In addition to providing an overview of Picture Pile, including some examples of relevance to SDG monitoring, this presentation will provide an overview of the current status of the Picture Pile Platform along with the data sharing model, the machine learning component and the vision for how the platform will function operationally to aid environmental monitoring.