Drones, conservation, and machine learning: state-of-the-art and future directions

Serge Wich, Paul Fergus, Carl Chalmers, and Steve Longmore

Liverpool John Moores University, Liverpool, UK

Due to the high anthropogenic pressures on biodiversity and the rapid changes that are occurring because of that, conservationists are now using an array of technologies to support data collection and analyses. One of these technologies, drones, is quickly becoming more common for data collection on land cover, animal distribution and density, and human impacts on biodiversity. Although data collection has often been made more efficient with drones the large amounts of data have been challenging to analyse and process into products that provide metrics for conservation managers and decision makers. In this presentation I will provide examples of projects for the detection of humans and animals on drone data, discuss the type of data that are being collected and focus on the machine learning methods currently used in platforms such as Conservation AI to support data analyses. I will also present thoughts on how this can be developed further in the future to further support conservation needs.