

# Tackling Deforestation

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## Context

One of the biggest problems in Latin America is rainforest conservation. In the last decade, the rainforest coverage has been decreasing considerably. The principal causes are the forest fires and the felling. Surveillance processes are not easy to perform due to the extension of the area and its distance from the urban areas.

## Objective:

Apply parallel GPU processing using a Jetson for a drone solution to rainforest surveillance tasks.

## Define:

1. Choose between a fixed or a multi-rotor drone. Please explain why and identify the advantages and disadvantages.
2. Your drone has equipped with an RGB camera with 42 Mpx. Please explain what operations you will apply for processing images to identify gaps in the forest canopy. Idea: FlowChart.
3. Using OpenCV and explained filtering techniques, please include the filters you choose for processing the images provided to identify a possible gap using the GPU. A template provided only uses CPU.
4. Measure the time elapsed to process an image and compare them when you only use the CPU compared with the time used for the combination of CPU+GPU.
5. Please compare your results and explain how you would increase the quality of these initial results.