

HW2

□ Due on 11/13, 23:59

□ Connected components

■ Generate a binarized image of **road**

■ Label the **forest** regions with 4-connected neighbor

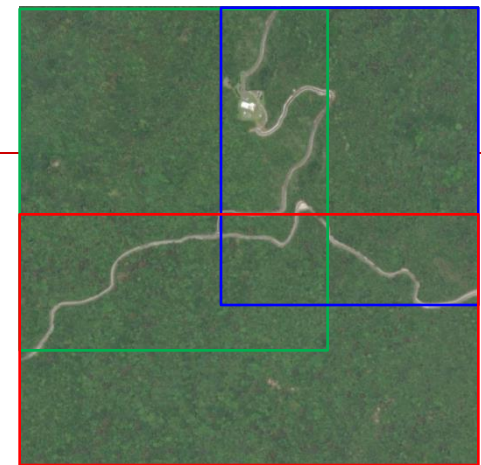
□ Label each connected component with R/G/B bounding box in output image.

□ Compute the centroid and area of each regions and print the data on output image or command window.

■ Use the morphology algorithms to reserve the **road** *i.e.*, the output connected component are only one region.

□ Report the length and orientation of the longest axis

■ Analyze and print the computational time of your program



Time(sec.)	binarizing	morphology	connected component	property analysis	drawing
C program	xxx	xxx	xxx	xxx	xxx
OpenCV	ooo	ooo	ooo	ooo	ooo

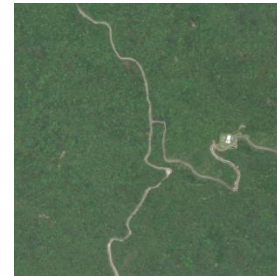
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□ Bonus

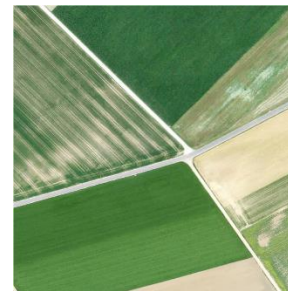
- Use the region properties to estimate the rotation angle ($90^\circ/180^\circ/270^\circ$) of the aerial image.



lan_island_square



Switzerland_square



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☐ Requirements

■ Two Programs

- ☐ C or C++ source code with .exe file (You are NOT allowed to use any library, such as OpenCV)

- Except the R/W image

- You can also use .raw to complete your work

- ☐ by using OpenCV

■ Report

- ☐ Describe the employed source code editor and how to execute your program (input/interface/output)
- ☐ Introduce your work, method, and discussions
- ☐ With all of the images or results

■ Upload to i-school Plus