Catanomics

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# Overall Objective:

Put 2-3 sentences that summarizes what you want to accomplish in this capstone.

I want to write computer vision software to scan in a *Catan* board at the beginning of a game. The scan will provide all necessary state information about the board, including hex junctions, type of each hex, number on each hex, port locations, port types, robber location, and board orientation.

# Requirements:

## Must-Haves

* Detect orientation of the board
* Tile types (color)
* Color of numbers (red 6’s and 8’s)
* of a CLEAN image (no extreme angle, good lighting, etc.)

## Should-Haves

* State of the pieces (settlements, cities, and roads locations)
* Port locations
* Numbers on each hex
* Robber location
  + Especially if the robber is blocking a number (not on desert)
* Whose cities/roads/settlements are whose (color of pieces)

## Like-To-Have

* Type of each port
* Different angles and lighting conditions
* Crowded board (lots of pieces, probably mid-game to late game)
* Eclusion (stuff in the way or off to the side)