Vision Statement

Project goal:
- Given a very high resolution image, we want to be able to detect tiny objects in it.

Project scope:
- Input: A very high resolution image.
- Output: Classification of tiny objects in the image.
- We don't create the whole system around the algorithm to feed it inputs and use the outputs.

High level requirements:
Essential:
- This problem can be solved by ways that lose information about neighboring features. Our goal is to solve it without the information loss.

Desirable:
- Find a better way of solving the problem than existing solutions.

Major milestones:
- Obtaining at least 2 data-sets of very high resolution images with tiny objects labeled.
- Find deep learning algorithms that solve this problem.
- Obtain a very deep understanding of how they work, implement and run them.
- Try to use the knowledge we gained to find a new way of solving this problem, with better results.
- Implement and run our solution.
- Write a scientific paper summarizing our work.

Useful real life applications:
- For farmers who want to oversee their crop using drones.
- For the army, to detect strategic object in satellite images.
- For developers, a tool to create a real time debug tool by processing the clients' screen.
- Higher resolution in car safety cameras, allows for better feature extraction and object detection.

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