

Shape Detection of the Objects

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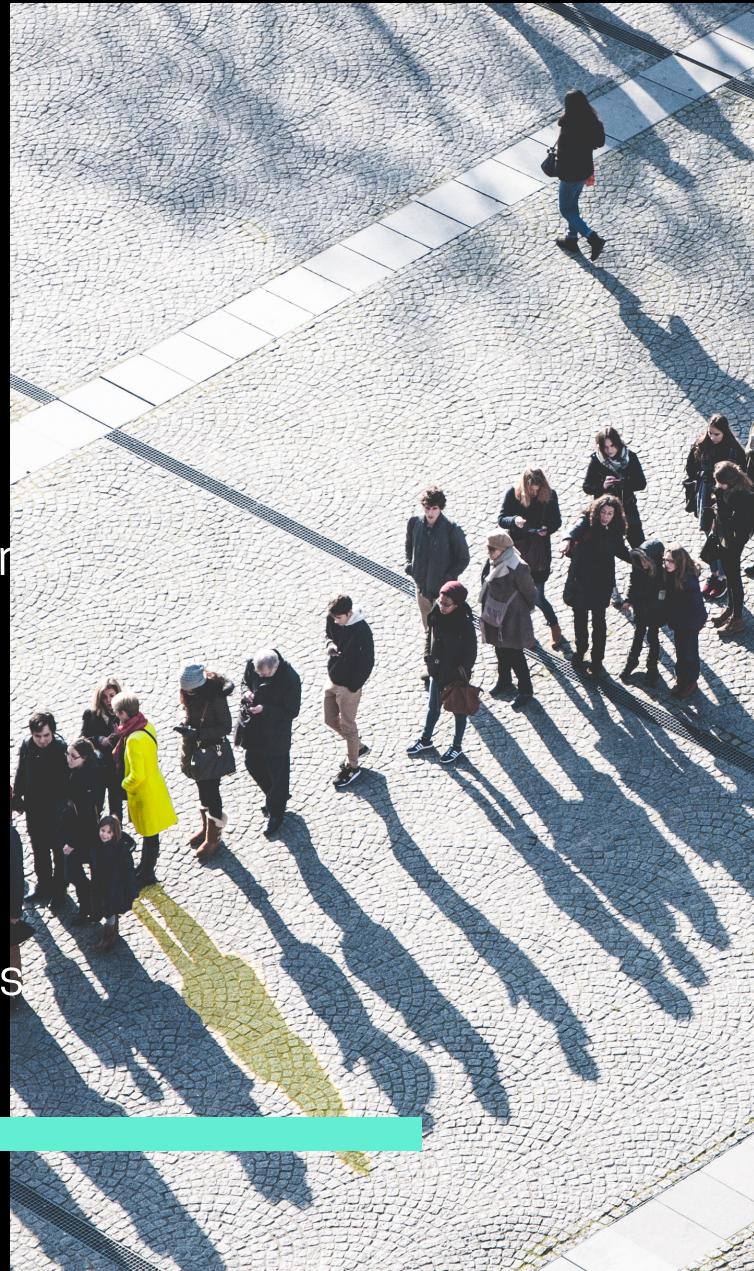
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Objective

Our objective for this project is to create a system which can identify the shape of the objects efficiently and produce the output in most feasible manner.

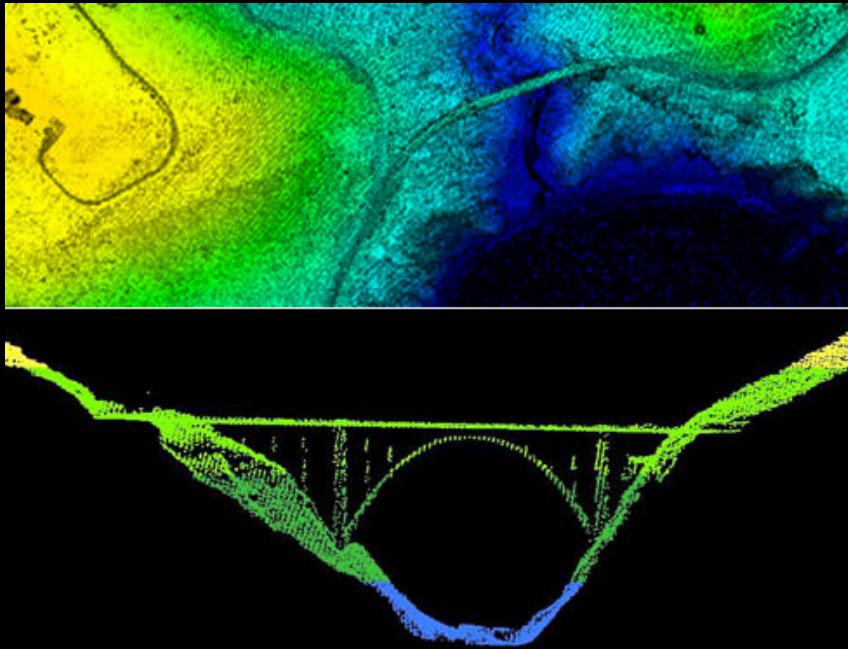
Motivation: LIDAR

- LIDAR, which stands for Light Detection and Ranging, is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth. These light pulses—combined with other data recorded by the airborne system—generate precise, three-dimensional information about the shape of the Earth and its surface characteristics



LIDAR

- Bixby Bridge in Big Sur, Calif. Here, LIDAR



Targets

- The initial motive is to detect the shapes of simple objects like sphere,cube,cylinder and more symmetrical objects.
- To detect the shape of a little complex object which has curves along with edges.
- The final target is to detect the shape of an object with fine granularity.

Plan

- Our plan is to detect the distance of different parts of the objects using sonar/laser/infrared/*LIDAR.
- Storing the data in angle vs distance data structure.
- To verify the collected data by sending it to 3D simulators(3D printers) or MATLAB plots.

Problems that we are facing: Open for suggestions

- The best way to detect the distance of parts of the objects i.e. accuracy of the detection?
- The MATLAB plots will have a considerable use of micro-controllers which wont make it a hardware project!!
- To verify the collected data, we'll need to input it into another system i.e. 3D printers etc.



THANK YOU

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BY SUSHMAN & SACHIN