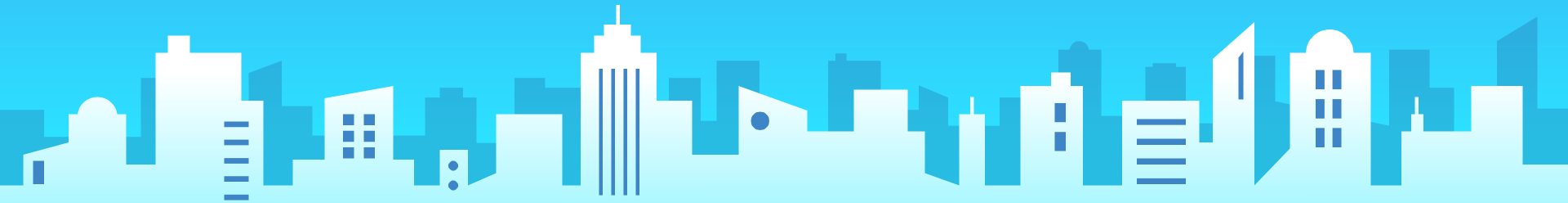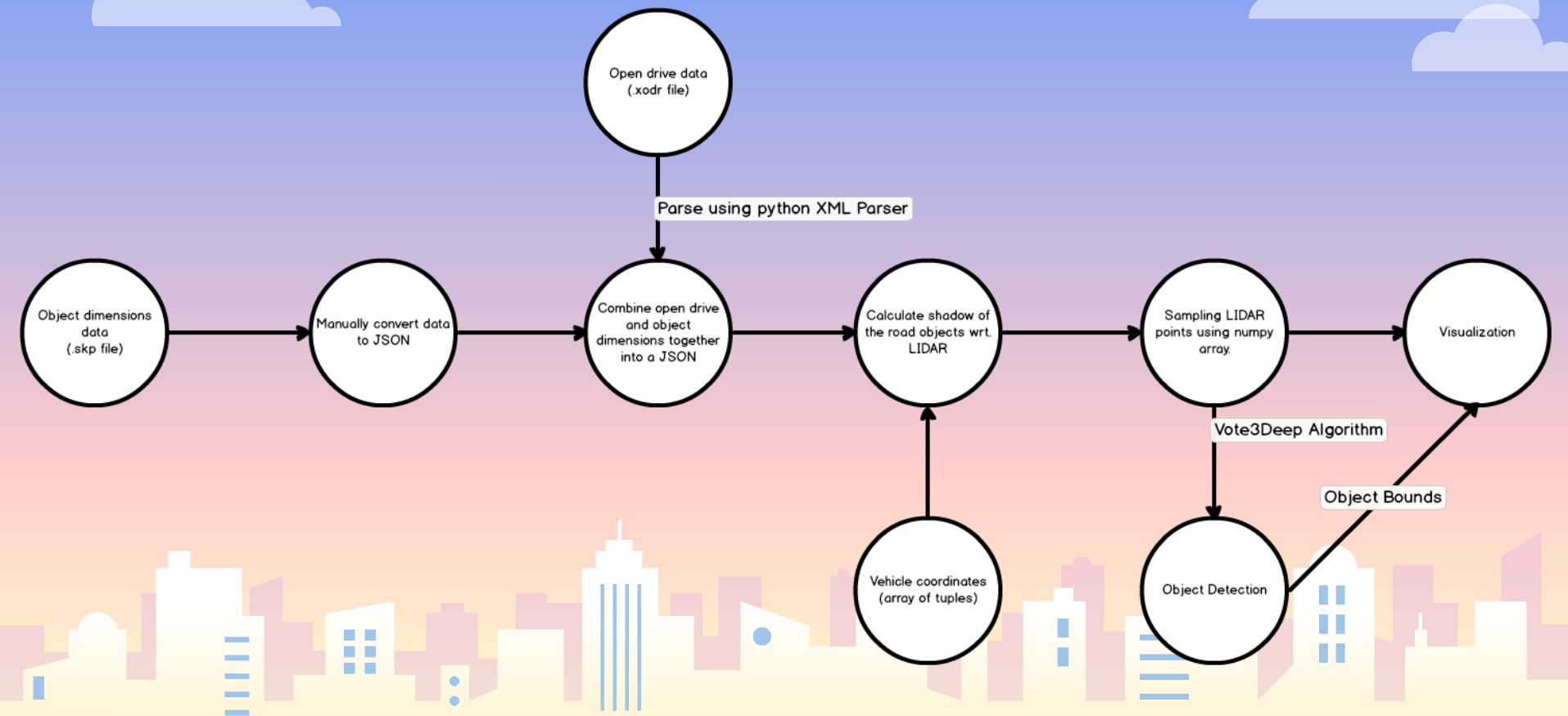# MBRDI CEA Virtual drive challenge

Approach to solving the challenge

Explanation

- Object dimensions are measured using SketchUp Viewer.

- These measurements are converted into a JSON file.

- OpenDrive (.xodr) file is converted into JSON using python XML parser.

Explanation

- Combine both JSONs to produce a JSON with road specification and object details

- Compute the shadow of images with respect to LIDAR position(Horizontal FOV, Vertical FOV).

- Use Numpy to sample points based on separation (0.625 degrees)

Explanation

- Apply Vote3Deep on the point cloud data to perform object detection.

- Use the point cloud data and Object bounds to perform visualization.

Thank You !

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