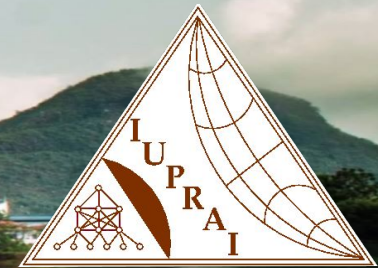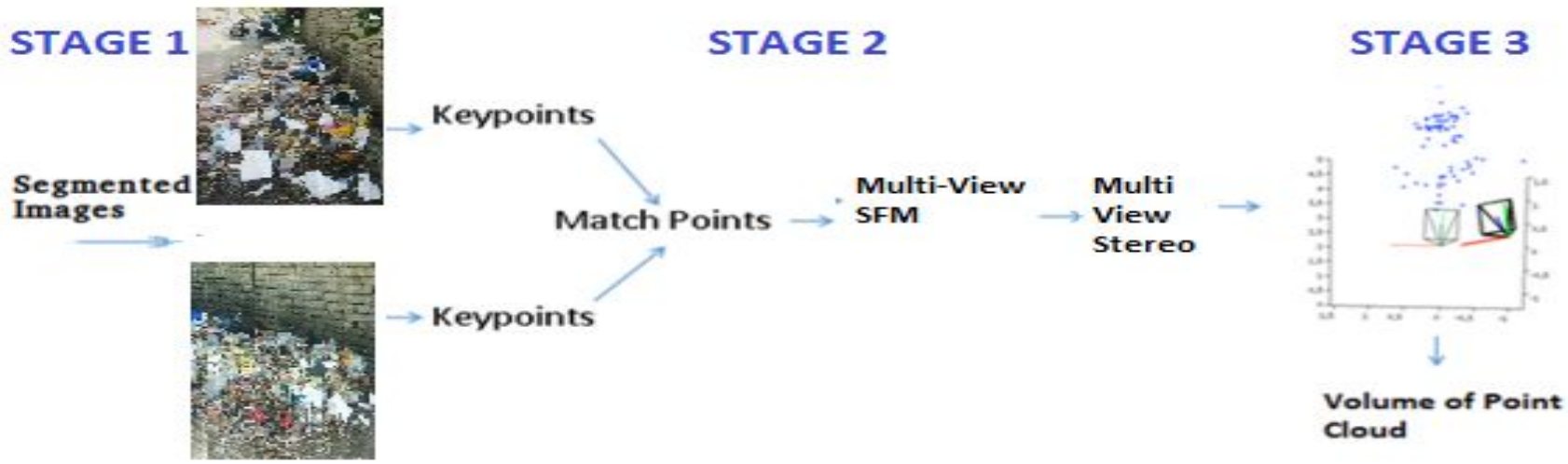# Towards Quantifying the Amount of Uncollected Garbage through Image Analysis

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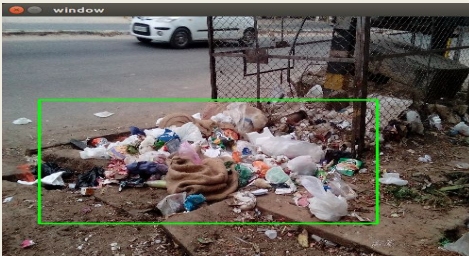Presented by : Susheel S., Prashanth T.K.

STAGE 1

Segmented Images → Keypoints

Keypoints

STAGE 2

Match Points → Multi-View SFM → Multi View Stereo →

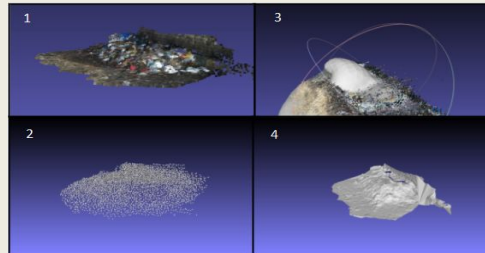## STAGE 3

Volume of Point Cloud

Stage 1

Bounding box segmentation using CNN

We compared three methods of segmenting out garbage. A modified AlexNet, trained to regress to the coordinates of the bounding box gave us the best results

Stage 2

3D Reconstruction

3D reconstruction of 8 segmented images is done using incremental SFM. Fast image matching (SIFT) and efficient bundle adjustment techniques are employed.It is followed up with MVS to generate dense 3D point clouds.

Stage 3

Surface Reconstruction and Volume Estimation

We take the point cloud from Stage 2 and reconstruct the surface using Ball-Pivot Meshing. We then estimate volume of the watertight model using an experimentally determined scale factor.