



NUS-Tsinghua Centre for Extreme Search
A Joint Research Collaboration Between NUS & Tsinghua University

Semantic Segmentation for 3D Indoor Scenes

Zhao Na

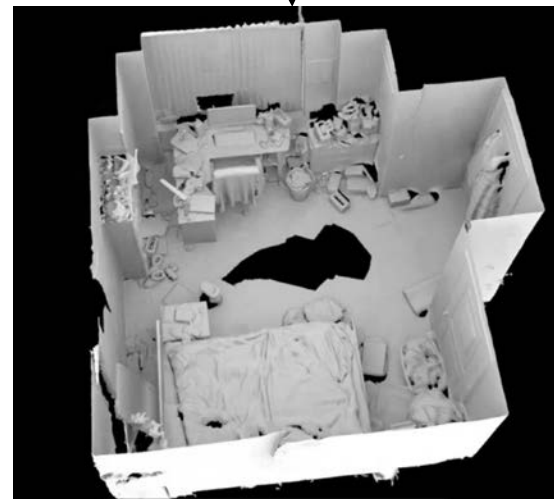
National University of Singapore / Tsinghua University

The world around us is comprised of 3D geometry

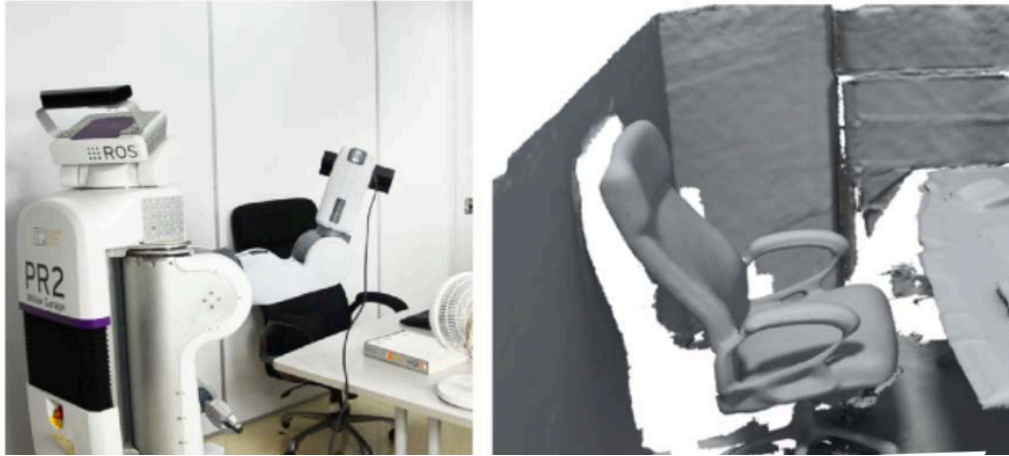
Video or Multi-view images

3D reconstruction
(SLAM)

Point Cloud



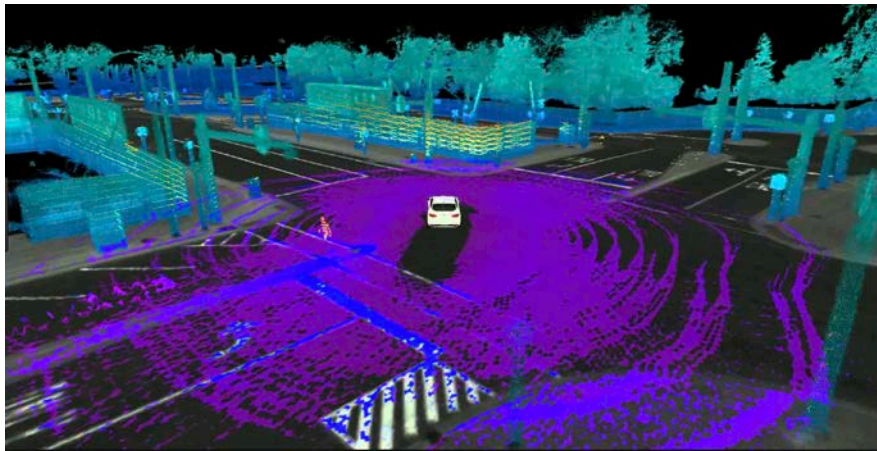
Broad applications of 3D data



Robotics



Augmented Reality



Autonomous driving

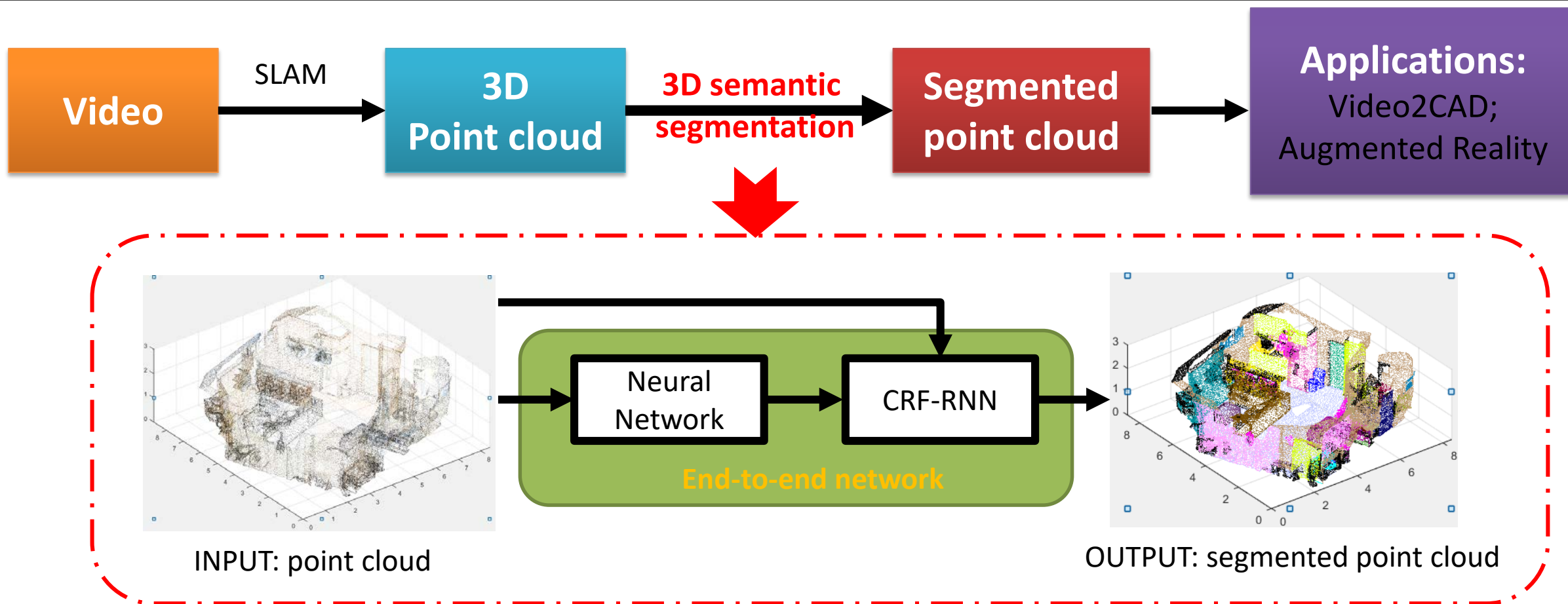


Medical Image Processing



3D point cloud analysis

- 3D point cloud only encode scene geometry. But in many applications like autonomous driving, it is important to understand both the structural and semantic information of the surroundings.
- Thus, **semantic segmentation**, which labels each point in a 3D point cloud with semantic class (e.g., Tree, Road), gives a more meaningful representation for 3D scene.



- **Dataset:** [S3DIS Dataset](http://buildingparser.stanford.edu/index.html) (CVPR2016) [<http://buildingparser.stanford.edu/index.html>]
[ScanNet Dataset](http://www.scan-net.org/) (CVPR2017) [<http://www.scan-net.org/>]



NUS-Tsinghua Centre for Extreme Search
A Joint Research Collaboration Between NUS & Tsinghua University

THANK YOU

NExT research is supported by the National Research Foundation,
Prime Minister's Office, Singapore under its IRC@SG Funding Initiative.