

## Panoramic Sensor



Panoramic Camera

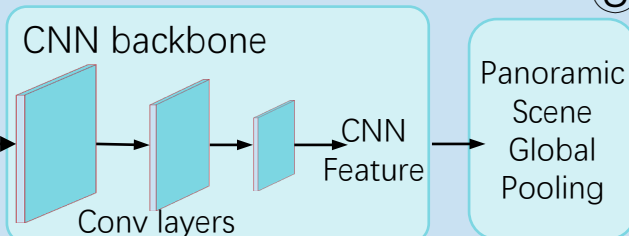


Input Panoramic Image Frames

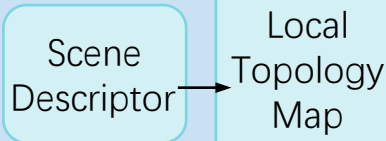
Map Thread

VO Thread

### CNN-Based Descriptor Generation ③

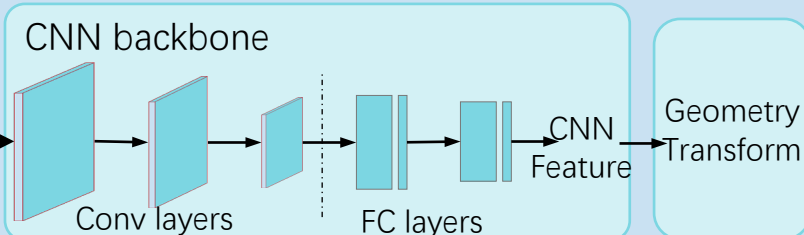


### Map Building ④



### Intra-Robot Operations

### CNN-Based VO for each image pairs ①



Frame 6D-Pose

Frame 6D-Pose

...

Frame 6D-Pose

Graph ②  
Optimize

Camera 6D-Pose

### Merging Thread

Scene Match ⑤

Global Topology mapping ⑥

Inter-Robot