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Visual odometry configuration

1

First RGB-D pair of images

2

Visual odometry initialization

Compute multi-resolution intrinsic parameters

Compute multi-resolution keyframe data

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3

Visual odometry tracking

Initialize camera pose

Compute multi-resolution color image of the new frame

Coarse-to-fine visual odometry

if new keyframe required

Compute multi-resolution keyframe data

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Multi-resolution keyframe data

Compute multi-resolution pyramid of RGB-D images

Compute multi-resolution gradient images

Select sparse set of tracking points

Compute Jacobian and Hessian of the direct image alignment problem at the tracking points