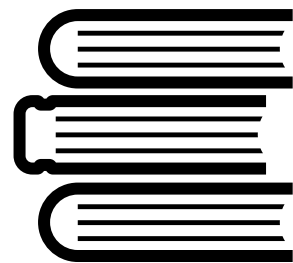


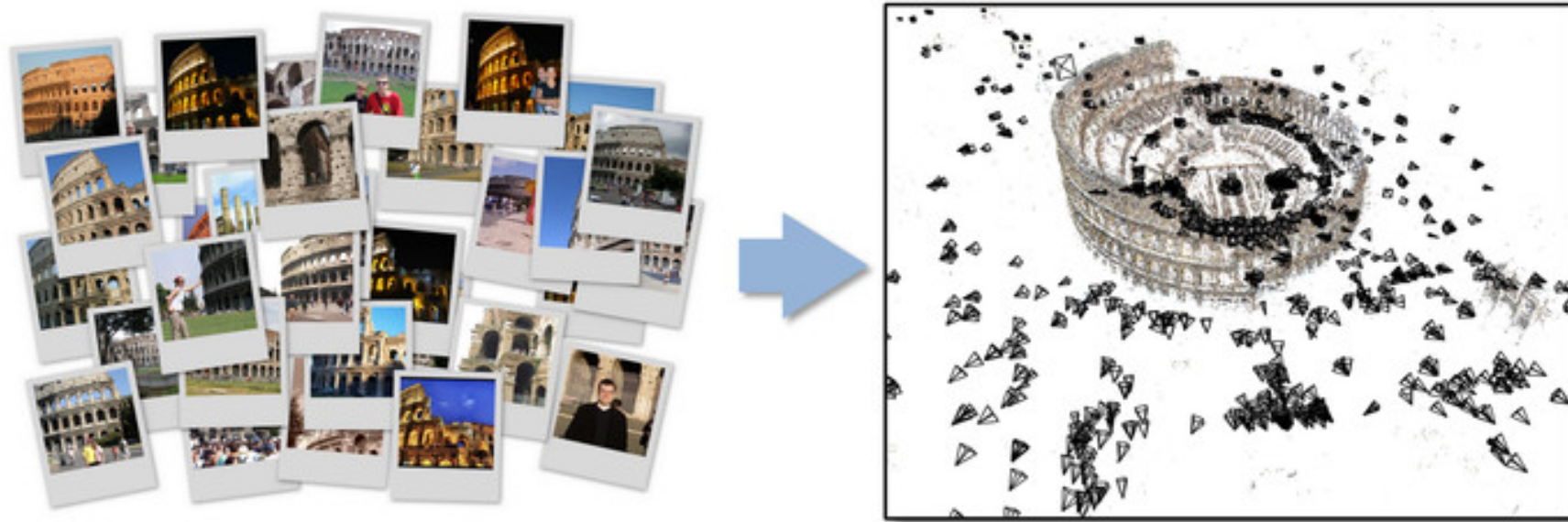
Efficient Global 2D-3D Matching for Camera Localization in a Large-Scale 3D Map

Liu Liu , Hongdong Li, and Yuchao Dai
2017 IEEE International Conference on Computer Vision

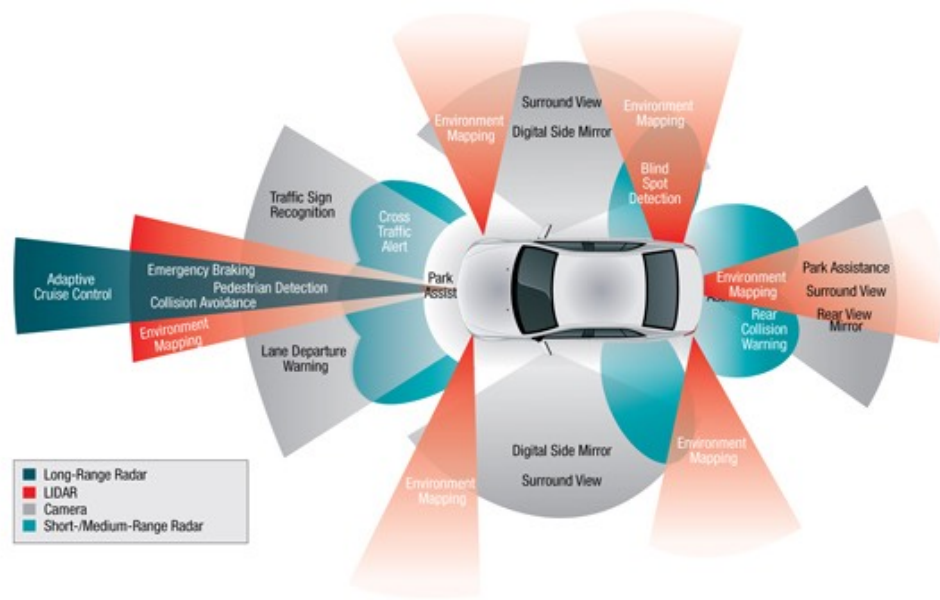


ZhengLab PaperReading
Shanchen Jiang

Structure-from-Motion



Building Rome in a Day
ICCV 2009



Driverless car



VR

Efficient Global 2D-3D Matching for Camera Localization in a Large-Scale 3D Map

2D-3D matching

matching points \longrightarrow *PnP* \longrightarrow RANSAC

Efficient Global 2D-3D Matching for Camera Localization in a Large-Scale 3D Map

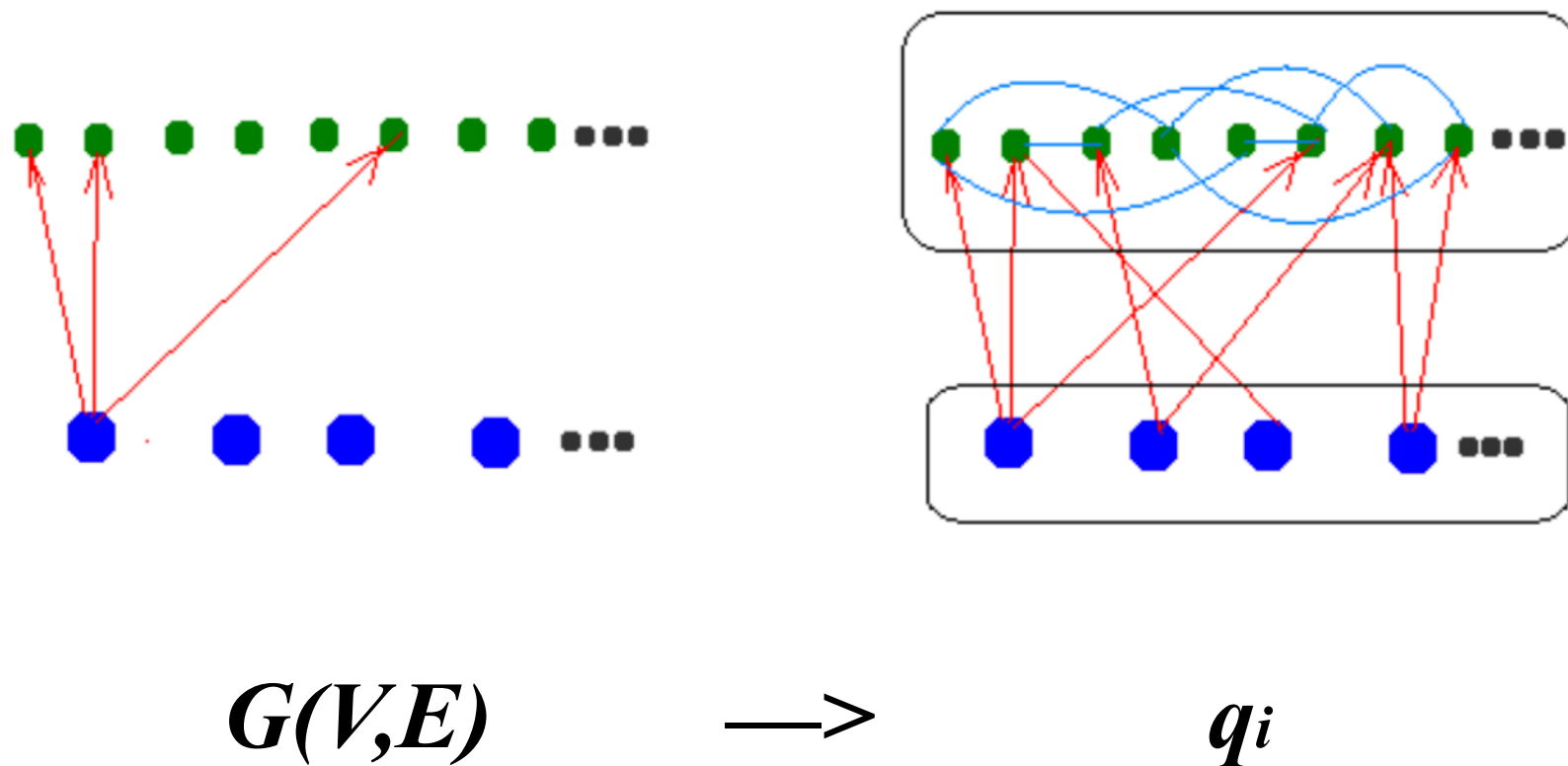
2D-3D matching

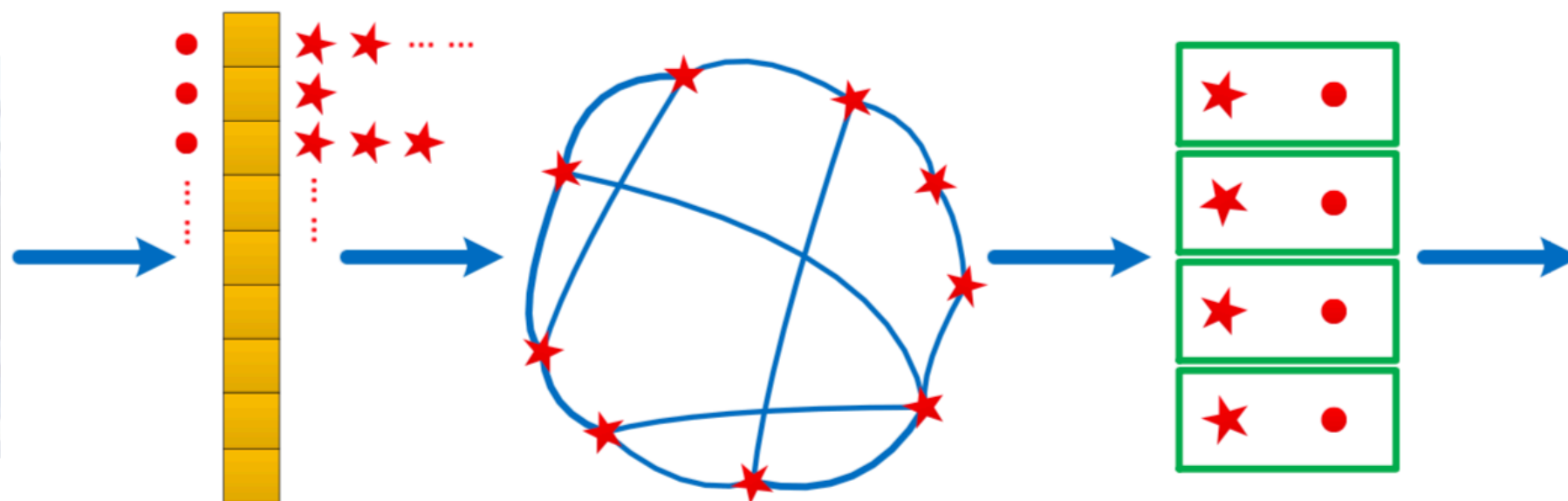
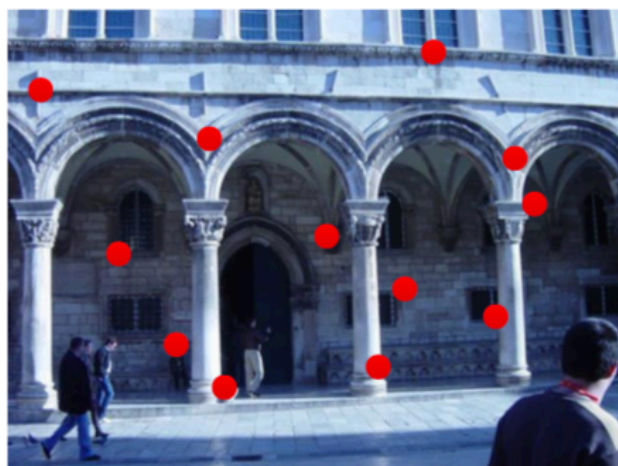
matching points \longrightarrow *PnP* \longrightarrow RANSAC

Quick search

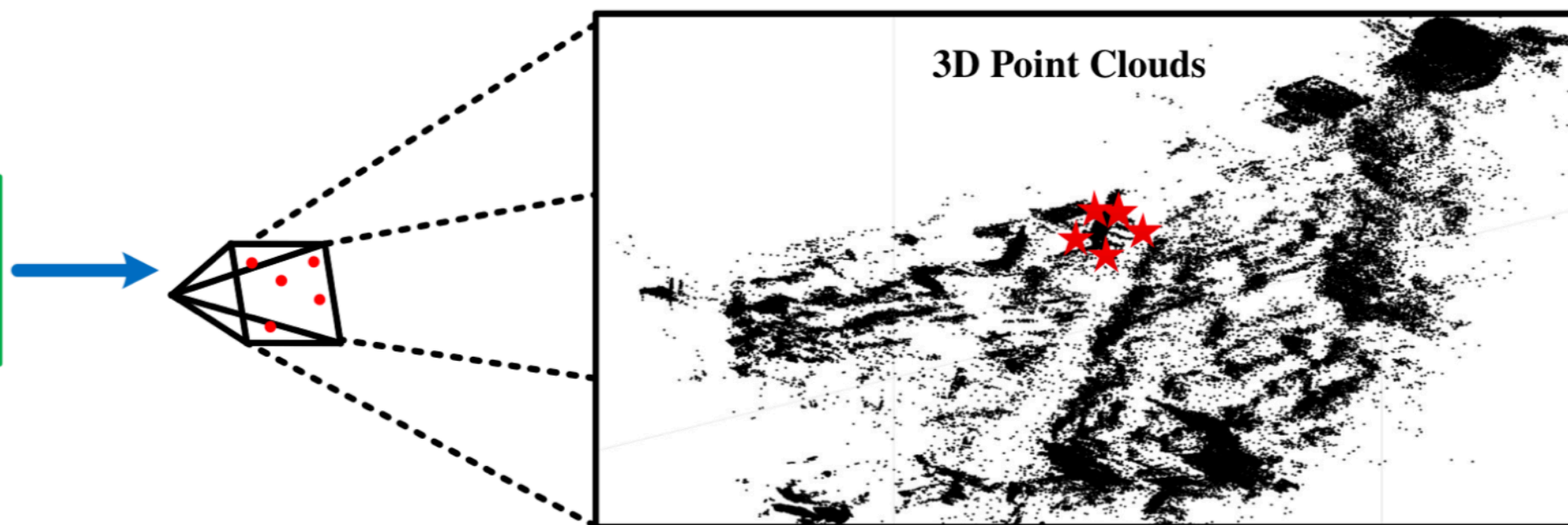
Correct match

Efficient Global 2D-3D Matching for Camera Localization in a Large-Scale 3D Map





PnP+RANSAC
camera pose



Efficient Global 2D-3D Matching for Camera Localization in a Large-Scale 3D Map

DATASET

(1) Dubrovnik

(2) Rome

(3) Vienna

(4) San Francisco

Dataset	#(images)	#(points)	#(query images)
Dubrovnik [32]	6,044	1,975,263	800
Rome [32]	15,179	4,067,119	1,000
Vienna [23]	1,324	1,123,028	266
SF-0 [12]	610,773	30,342,328	803

millions of 3D map points

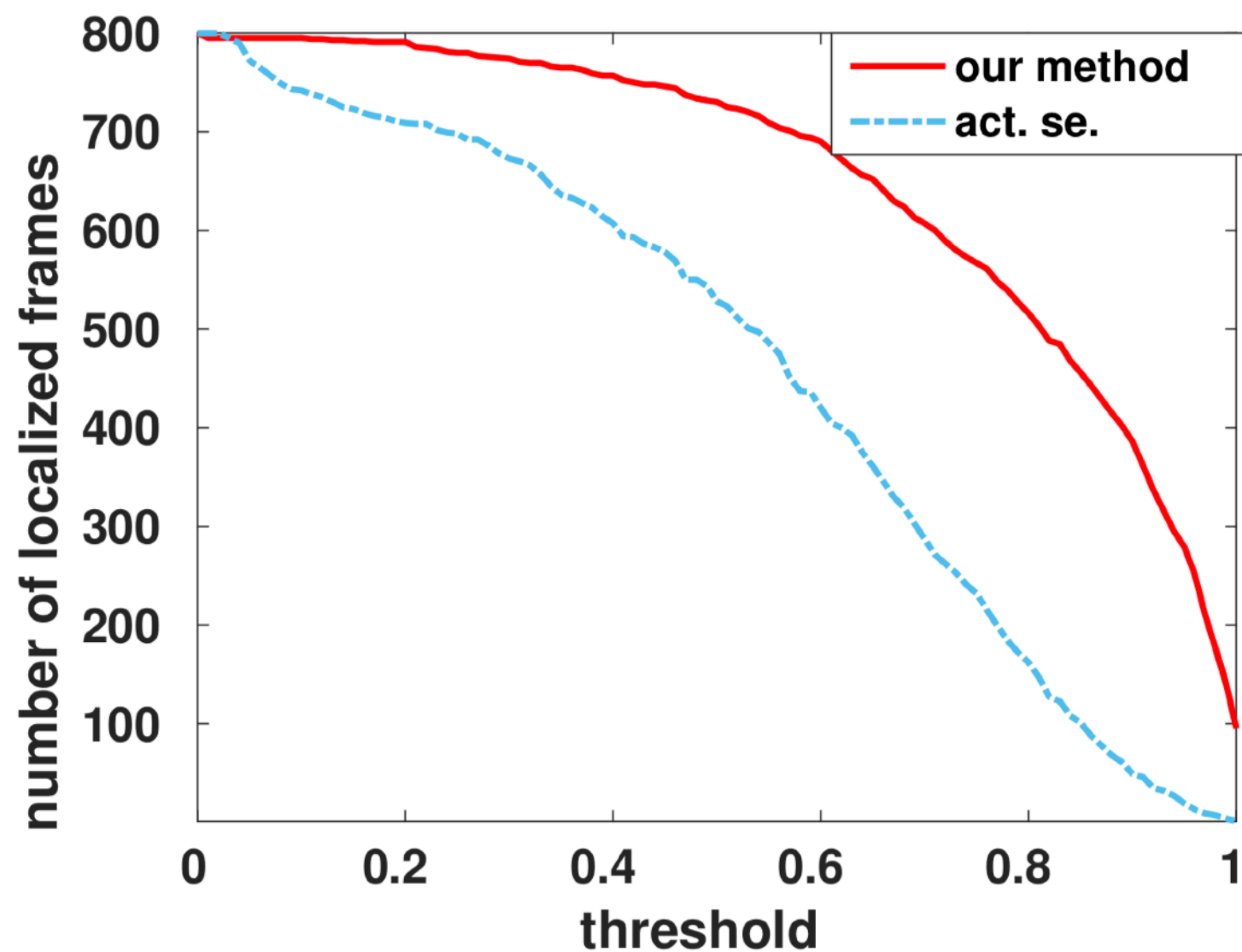
Equipment: 4GHz Intel i7-6700K CPU

recall-date

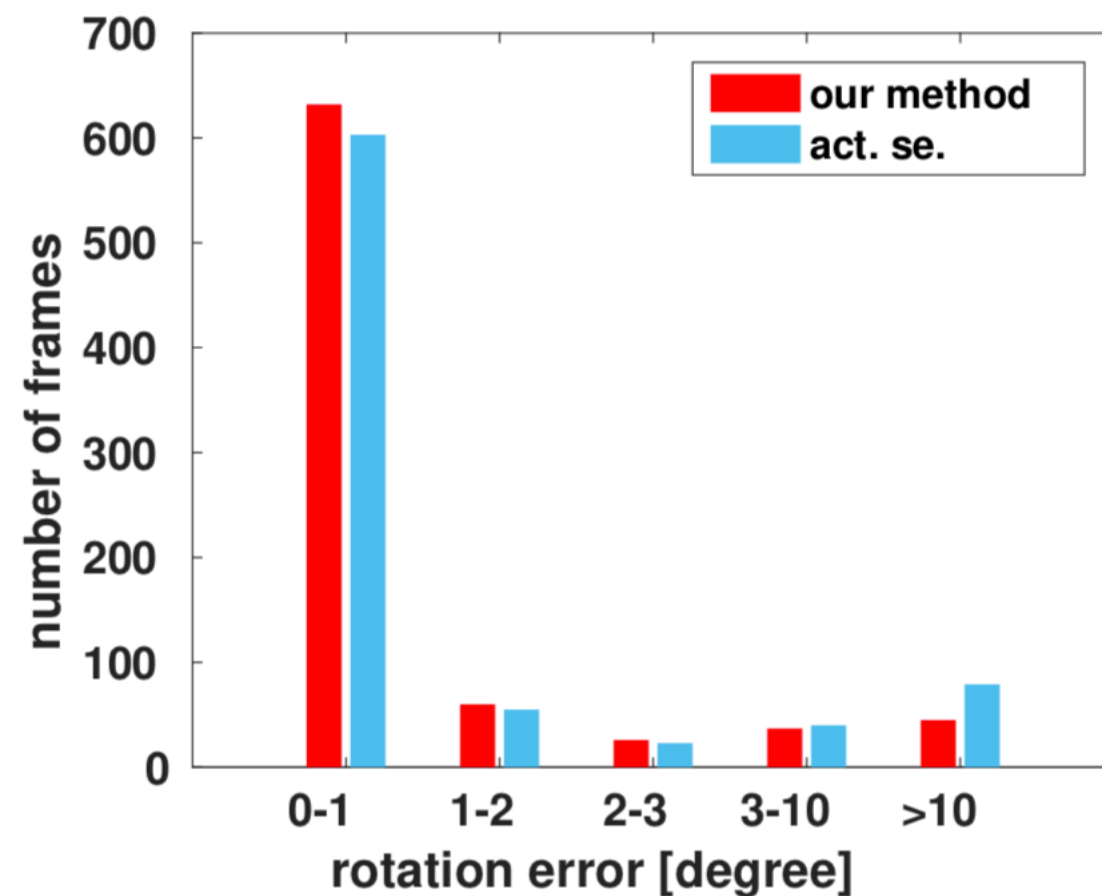
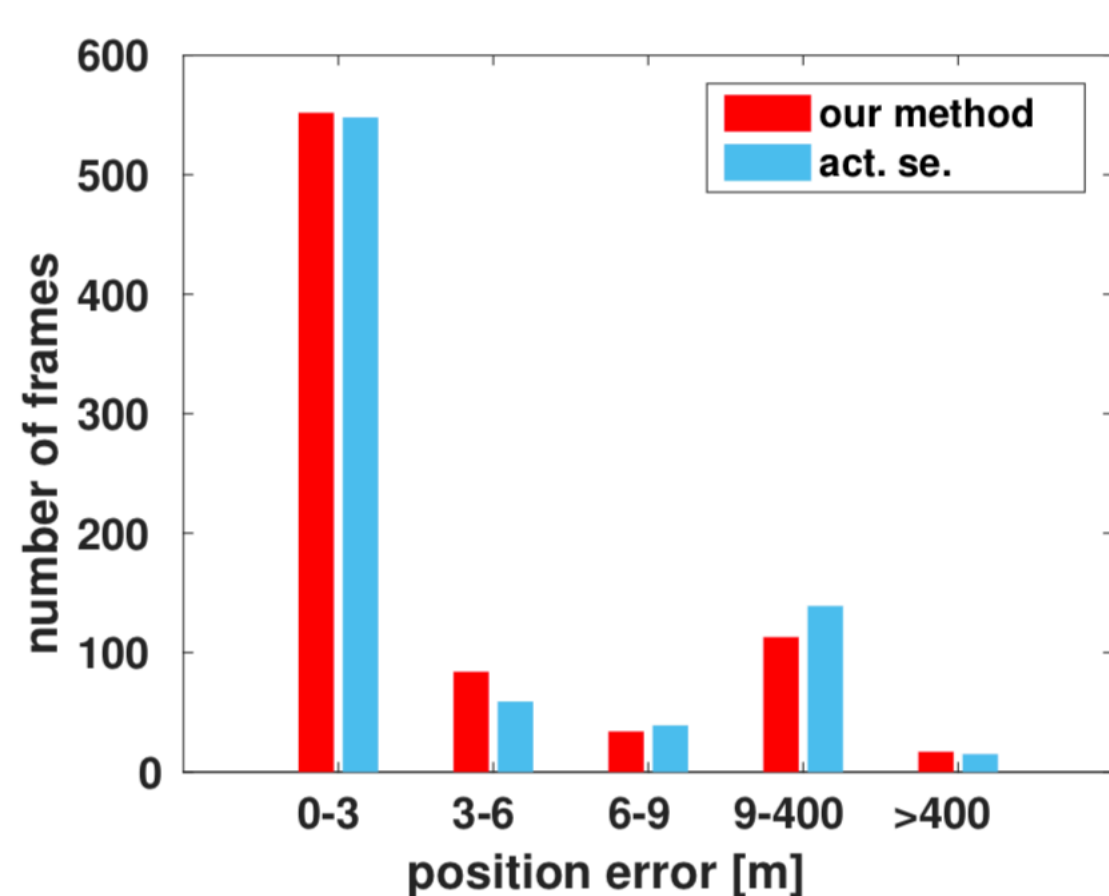
precision

accuracy

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Efficient Global 2D-3D Matching for Camera Localization in a Large-Scale 3D Map





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