

3D Computer Vision

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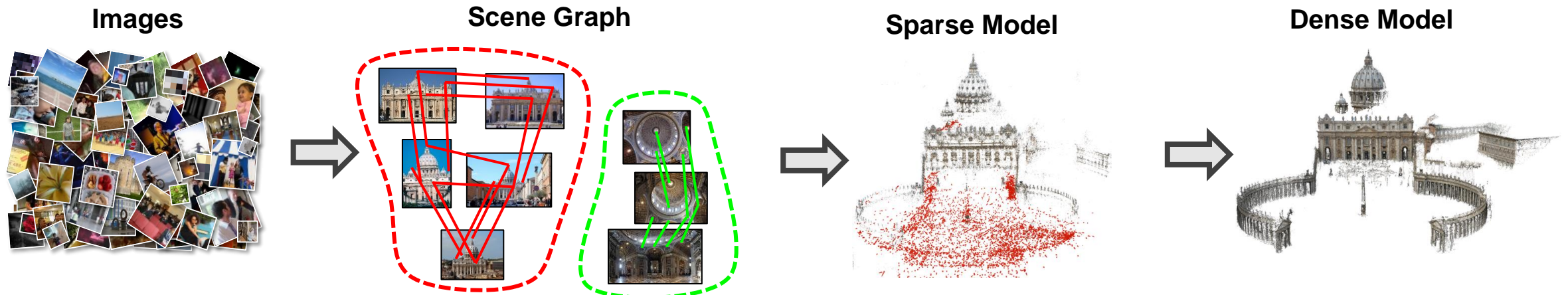


video → 3D model



Recorded at archaeological site of Sagalassos in Turkey accuracy ~1/500 from DV video (i.e. 140kb jpegs 576x720)

Photo collections → 3D model



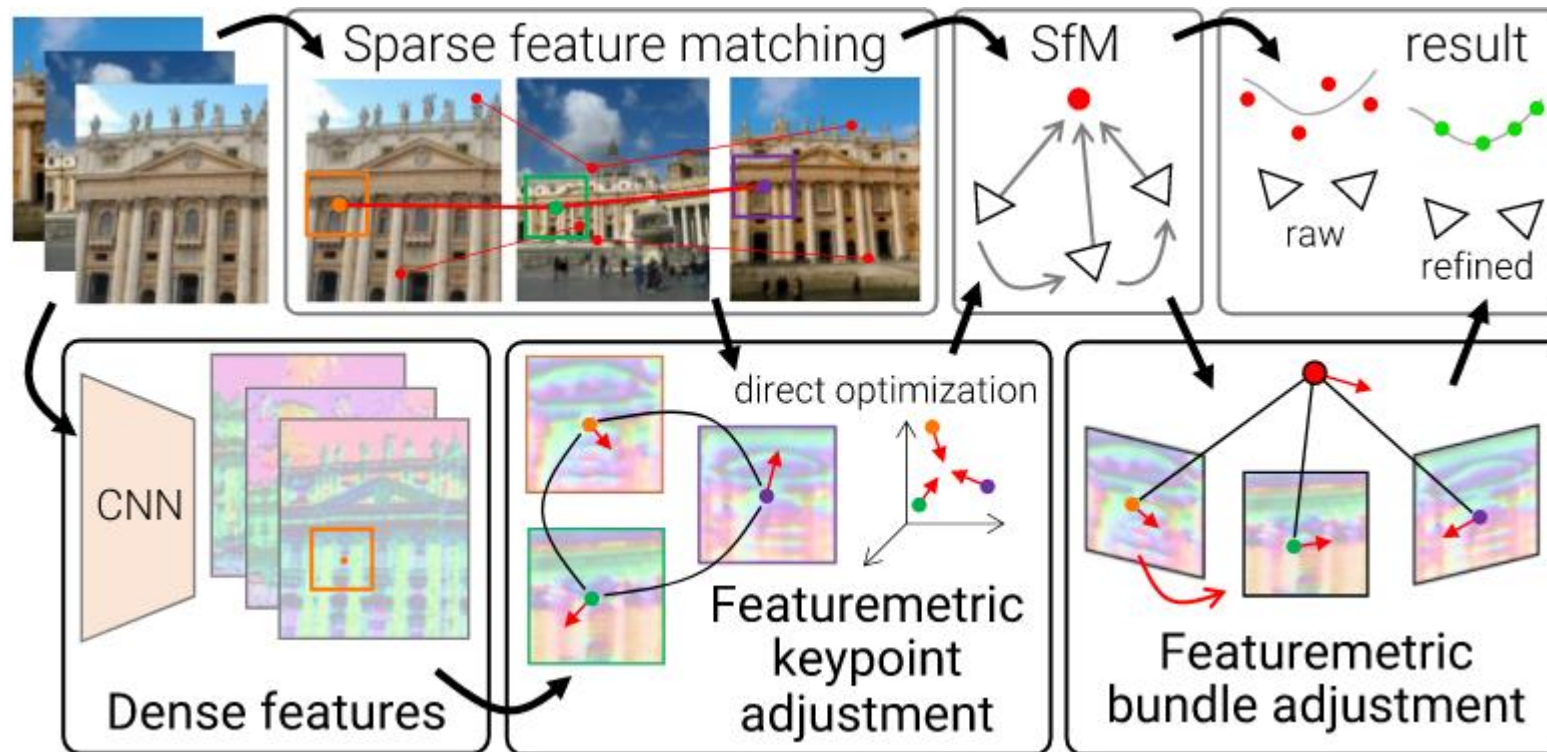
PAMI Mark Everingham Prize @ ECCV2020

COLMAP: Schoenberger et al CVPR16, ECCV16

<https://colmap.github.io>

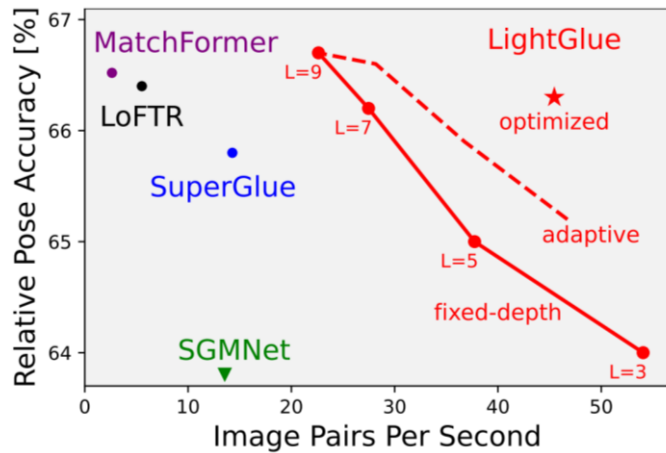
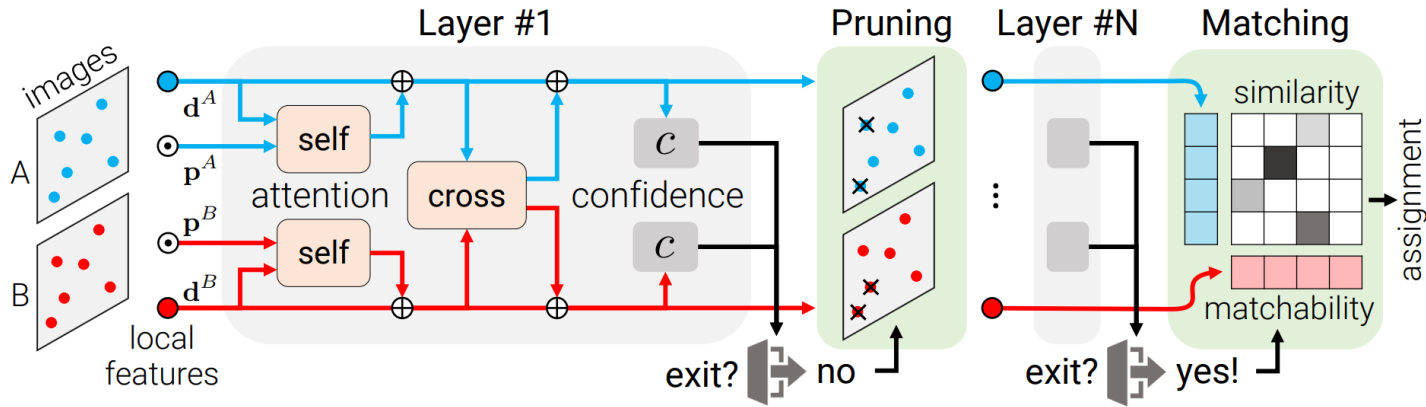
Pixel-Perfect Structure-from-Motion with Featuremetric Refinement

Lindemberger et al ICCV21
(best student paper)

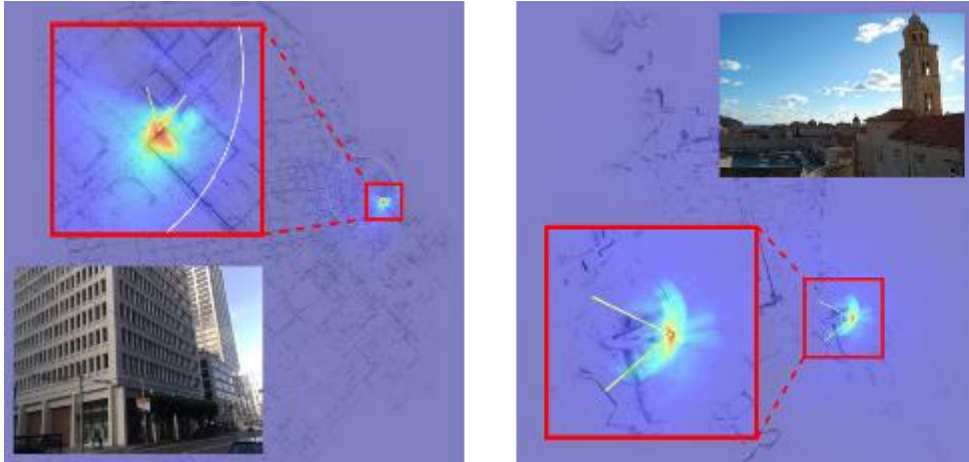


LightGlue

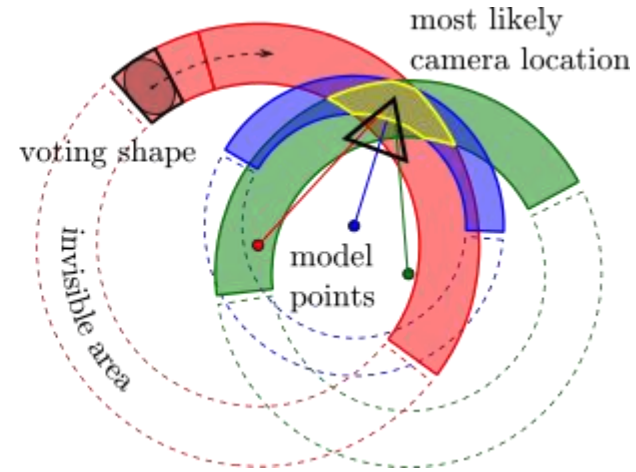
Lindenberger, Sarlin and Pollefeys, ICCV2023



Camera Pose Voting for Large-Scale Image-Based Localization

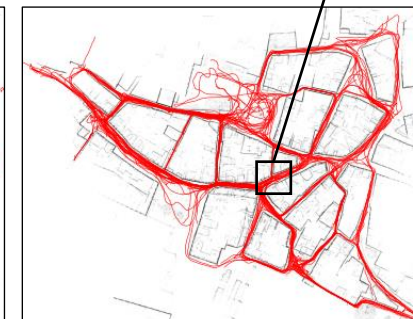
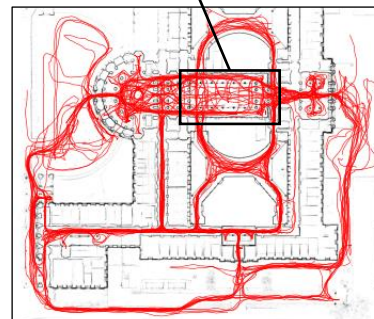
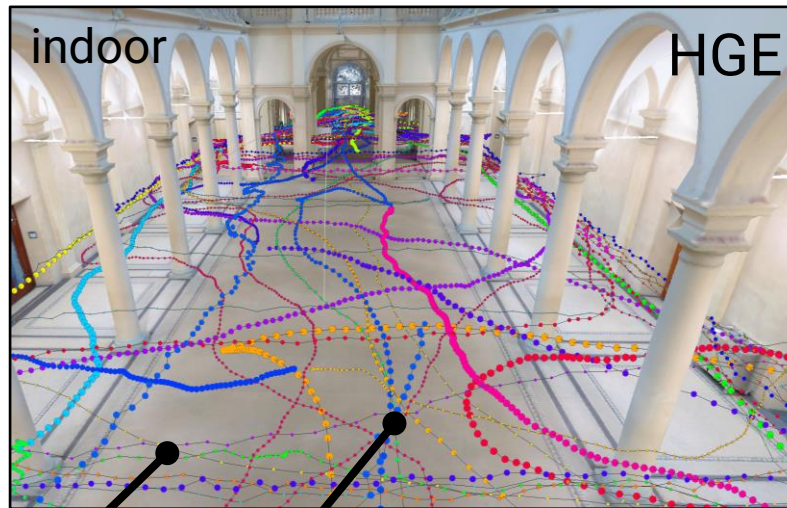
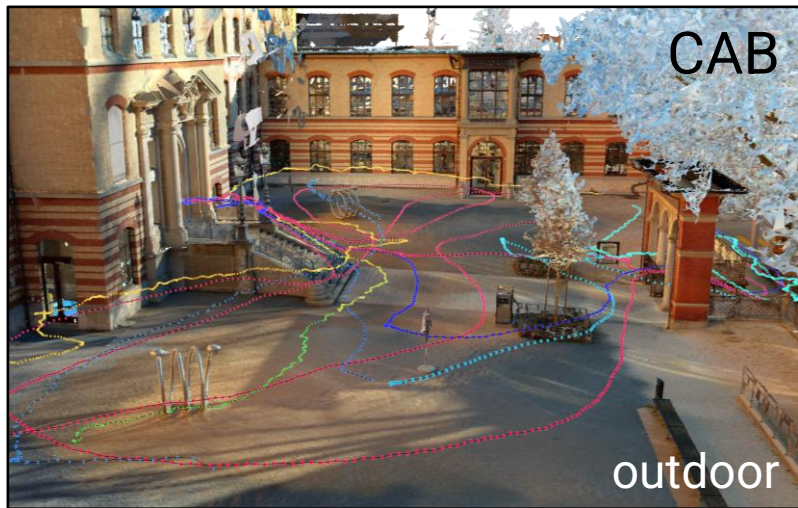


Zeisl, Sattler, Pollefeys ICCV'15



LaMAR: New benchmark for AR (and robotics)

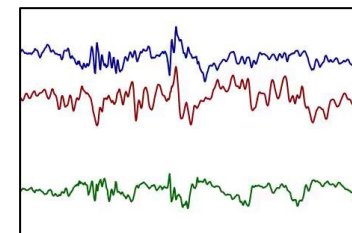
<https://lamar.ethz.ch/>



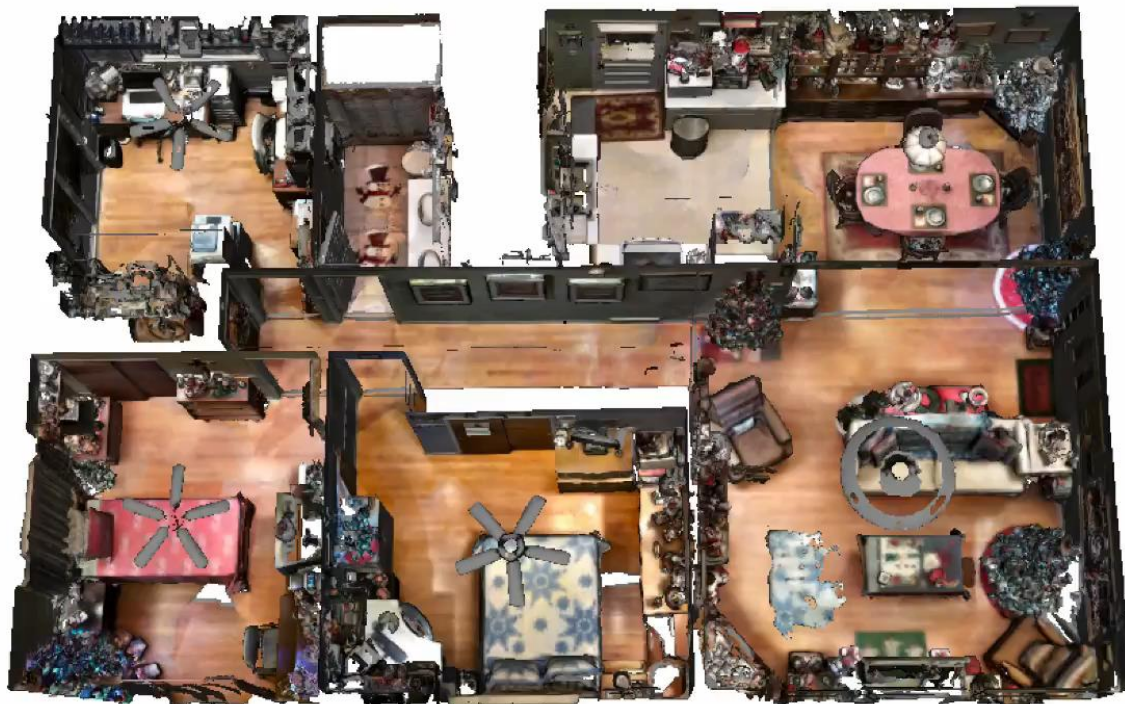
Ground truth from laser scanners



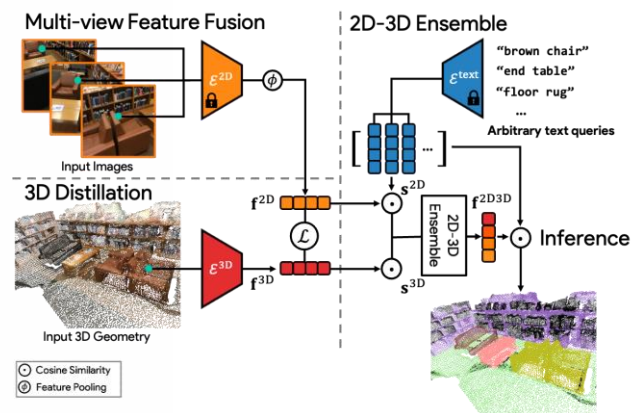
radio signals



Text queries:



Extends OpenAI CLIP joint text-image embedding towards 3D geometry



HoloAssist

Wang et al. ICCV23





Thank you for your attention!

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