VisualSFM : A Visual Structure from Motion System

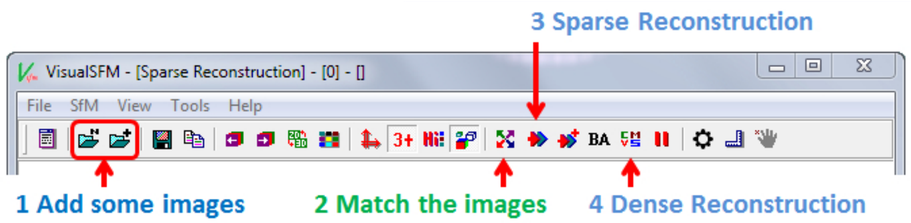
Changchang Wu

VisualSFM is a GUI application for 3D reconstruction using structure from motion (SFM). The reconstruction system integrates several of my previous projects: SIFT on GPU(SiftGPU), Multicore Bundle Adjustment, and Towards Linear-time Incremental Structure from Motion. VisualSFM runs fast by exploiting multicore parallelism for feature detection, feature matching, and bundle adjustment.

For dense reconstruction, this program integrates the execution of Yasutaka Furukawa's PMVS/CMVS tool chain. The SfM output of VisualSFM works with several additional tools, including CMP-MVS by Michal Jancosek, MVE by Michael Goesele's research group, SURE by Mathias Rothermel and Konrad Wenzel, and MeshRecon by Zhuoliang Kang.

Structure from Motion - A Visual Interface

Reconstruct 3D with a few button clicks, and watch the dynamic reconstruction process!



You still have the option to run from command line without a GUI!

```
>VisualSFM sfm+pmvs ./images ./result.nvm
```

Download V0.5.26 (changelog with new feature documentation)

Windows* (64-bit, 32-bit, installation guide), ***for nVidia CUDA or CUDA Simulation.**
Windows (64-bit, 32-bit, installation guide)
Linux (64-bit, 32-bit, installation guide), see the tutorials for Ubuntu or Fedora.
Mac OSX (64-bit, 32-bit, installation guide), see the installer by Dan Monaghan.

* VisualSFM is free for personal, non-profit or academic use. See README for more details.
* Please cite VisualSFM according to README in your publication.

Documentation (FAQs)

Basic usage, image size, customized matching, controls, parameters, nvm file, demo, ...
Introductory videos(1, 2) and tutorial by Eugene Liscio. French Tutorial by Mathis Fantin.

*The changelist page offers limited documentations for recently added features.
*Post questions and see discussions & tutorials at the Google Group, or email me privately.

Live Reconstruction Visualization! (more videos)

Below is a 3 minute live run of reconstruction of 130 images(using pre-computed matches).