

# Computer Vision

## ICP, EGC, SFM

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June 2014

### Abstract

In this technical report we present the implementation together with results we obtained for three separate classes of algorithms. Section 1 introduces each of these algorithms, discussing also their aspects and applications. Section 2 presents the three dimensional point cloud registration technique called Iterative Closest Point[1] (ICP) algorithm. Structure of motion can be obtained through Epipolar geometry and chaining of invariant detected points [2]

### 1 Introduction

### 2 Iterative Closest Point

### 3 Epipolar Geometry and Chaining

### 4 Structure from Motion

### 5 Conclusion

### References

- [1] Besl, Paul J., and Neil D. McKay. "Method for registration of 3-D shapes." In Robotics-DL tentative, pp. 586-606. International Society for Optics and Photonics, 1992.
- [2] Rothganger, Fred, Svetlana Lazebnik, Cordelia Schmid, and Jean Ponce. "3d object modeling and recognition using local affine-invariant image descriptors and multi-view spatial constraints." International Journal of Computer Vision 66, no. 3 (2006): 231-259.