

CHEN KONG

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EDUCATION

Carnegie Mellon University

August 2014 - present

Ph.D. student in Robotics Institute, working with Doctor Simon Lucey

Tsinghua University

September 2010 - June 2014

B.E. in Department of Automation

SELECTED PROJECTS

Single Image 3D Reconstruction

PhD Student, working with Simon Lucey, CMU

- Investigated the problem of estimating the dense 3D shape of an object from a single image.
- Demonstrated that a deformable, dense 3D model can be inferred from local dense correspondence, eschewing the need for global dense correspondence prior.

Non-Rigid SfM and Sparse Coding

PhD Student, working with Simon Lucey, CMU

- Investigated NRSfM problem by reinterpreting it as a sparse dictionary learning problem, making it possible to recover a sequence of complex 3D structure.
- Theoretically characterized the uniqueness of block sparse dictionary learning.

Vision and Language

Internship, working with Raquel Urtasun and Sanja Fidler, TTIC

- Integrated language processing with computer vision, specifically image understanding.
- Demonstrated the utility of language processing in boosting the performance of image understanding.
- Generated complex lingual descriptions of images from holistically understanding indoor scenes.

PUBLICATIONS

- C. Lin, **C. Kong**, and S. Lucey. Learning Efficient Point Cloud Generation for Dense 3D Object Reconstruction. In *the Thirty-Second AAAI Conference on Artificial Intelligence (AAAI)*, 2018.
- J. Pontes, **C. Kong**, A. Eriksson, C. Fookes, S. Sridharan, and S. Lucey. Compact model representation for 3D reconstruction. In *International Conference on 3D Vision (3DV)*, 2017.
- **C. Kong**, C. Lin, and S. Lucey. Using Locally Corresponding CAD Models for Dense 3D Reconstructions from a Single Image. In *Computer Vision and Pattern Recognition (CVPR)*, 2017..
- **C. Kong**, R. Zhu, H. Kiani, and S. Lucey. Structure from category: a generic and prior-less approach. In *International Conference on 3D Vision (3DV)*, 2016.
- **C. Kong** and S. Lucey. Prior-less compressible structure from motion. In *Computer Vision and Pattern Recognition (CVPR)*, 2016.
- D. Lin, **C. Kong**, S. Fidler, and R. Urtasun. Generating Multi-Sentence Lingual Descriptions of Indoor Scenes. In *British Machine Vision Conference (BMVC)*, 2015.
- **C. Kong**, D. Lin, M. Bansal, R. Urtasun, and S. Fidler. What are you talking about? text-to-image coreference. In *Computer Vision and Pattern Recognition (CVPR)*, 2014.
- D. Lin, S. Fidler, **C. Kong**, and R. Urtasun. Visual semantic search: Retrieving videos via complex textual queries. In *Computer Vision and Pattern Recognition (CVPR)*, 2014.

TECHNICAL STRENGTHS

Computer Languages Packages

Python, MATLAB, Lua, C++, Java, HTML, Javascript
Tensorflow, Caffe, Torch.