

Yihong Wu

Personal Information:

Position: Professor

Affiliation: National Laboratory of Pattern Recognition, Institute of Automation, Chinese Academy of Sciences

Date of Birth: November 1973

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Career History:

- Professor, NLPR, Institute of Automation, CAS, 2008--present.
- Associate Professor, NLPR, Institute of Automation, CAS, 2003--2008.
- Research Fellow/Visiting Associate Professor, City University of Hongkong, 2006, 2007.
- Postdoctoral Researcher, NLPR, Institute of Automation, CAS, 2001--2003.
- Ph.D., Institute of Systems Science, CAS, 2001.

Major Research Grants:

- The National Key Basic Research and Development Program of China, Image Based 3-Dimensional Reconstruction, 2002-2007.
- The National Natural Science Key Foundation of China, Camera Parameter Computation from Video Sequence, 2007-2010.
- The National Natural Science Foundation of China, Study on Image Invariants and Applications under Multiple Camera Models, 2008-2010.
- The National Natural Science Foundation of China, Robot Visual Perception, 2015-2020.
- Nokia Research Center, Visual Simultaneously Localization and Mapping, 2009-2014.
- Samsung Beijing, Non-planar Object Tracking, 2016.
- Huawei Beijing, VR Headset Pose Tracking, 2016-2017.

Selected Publications:

- Y. Feng, L. Fan, and **Y. Wu**. Fast Localization in Large Scale Environments Using Supervised Indexing of Binary Features. *IEEE Transactions on Image Processing*, Vol. 25, No. 1, pp. 343-358, 2016.
- W. Liu, **Y. Wu**, F. Guo, and Z. Hu. An Efficient Approach of 2D to 3D Video Conversion Based on Piece-wise Structure from Motion. *The Visual Computer*, Vol. 31, Iss. 1, pp 55-68, January, 2015.
- **Y. Wu**, Z. Hu, and Y. Li. Radial Distortion Invariants and Lens Evaluation under a Single-Optical-Axis Omnidirectional Camera. *Computer Vision and Image Understanding*, 126: 11-27, 2014.
- Z. Dai, **Y. Wu**, F. Zhang, and H. Wang. A Novel Fast Method for L_∞ Problems in Multiview Geometry. *ECCV*, pp. 116-129, 2012.
- F. Wu, F. Duan, Z. Hu, and **Y. Wu**. A New Linear Algorithm for Calibrating Central Catadioptric Cameras. *Pattern Recognition*, 41(10): 3166-3172, 2008.
- **Y. Wu**, Y. Li, and Z. Hu. Detecting and Handling Unreliable Points for Camera Parameter Estimation. *International Journal of Computer Vision*, Vol. 79, No. 2, pp. 209-223, 2008.
- B. Zhang, Y. Li, and **Y. Wu**. Self-Recalibration of a Structured Light System via Plane-Based Homography. *Pattern Recognition*, Vol. 40, Iss. 4, pp. 1368-1377, 2007.
- **Y. Wu** and Z. Hu. PnP Problem Revisited. *Journal of Mathematical Imaging and Vision*, Vol. 24, No. 1, pp. 131-141, 2006.
- **Y. Wu**, X. Li, F. Wu, and Z. Hu. Coplanar Circles, Quasi-Affine Invariance and Calibration. *Image and Vision Computing*, Vol. 24, Iss. 4, pp. 319-326, 2006.

- **Y. Wu** and Z. Hu. Geometric Invariants and Applications under Catadioptric Camera Model. *ICCV*, pp.1547-1554, 2005.
- **Y. Wu**, H. Zhu, Z. Hu, and F. Wu. Camera Calibration from the Quasi-Affine Invariance of Two Parallel Circles. *ECCV*, pp. 190-202, 2004.
- **Y. Wu** and Z. Hu. Invariant Representations of a Quadric Cone and a Twisted Cubic. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 25, No. 10, pp. 1329-1332, 2003.

Selected Academic Services:

- Organizing Chair of Workshop on Community Based 3D Content and Its Applications in Mobile Internet Environments, in conjunction with ACCV 2009/ ICME 2012.
- Associate Editor of the Open Artificial Intelligence Journal from 2010.
- Editorial Board of Journal of CAD&CG from 2006.
- Editorial Board of Journal of Frontiers of Computer Science and Technology from 2010.
- Editorial Board of Visual Computing for Industry, Biomedicine, and Art from 2016.
- Session Chair of the 8th Asian Conference on Computer Vision in 2007.

Research Interests:

Three-dimensional computer vision: camera calibration, camera pose determination/tracking, SLAM, image matching, 3D reconstruction.