VINCENT RABAUD

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Paris, 75014   vincent.rabaud@gmail.com
France

Education UNIVERSITY OF CALIFORNIA, SAN DIEGO   San Diego, CA
Ph.D. in Computer Science.
Dissertation:*Manifold Learning Techniques for Non-Rigid Structure from Motion.*
Advisor: Serge Belongie.
Research Interests: Structure from Motion, Multiview Geometry, Panorama, Image Manifold Learning, Tracking, Behavior Analysis, Optimization, Visual Captchas, Perception.

SUPAERO   Toulouse, France
M.S. in Aeronautical and Space Engineering, Space Imagery Major, 2003.

ECOLE POLYTECHNIQUE   Paris, France
B.S./M.S. in Applied Math, Fluid Mechanics and Parallel Computing, 2001.

Work Experience

ALDEBARAN ROBOTICS   Paris, France
April 2013–present
Perception Team Manager, Object Recognition (2d/3d), Human Interaction.

OPENCV FOUNDATION June 2012–present
Co-Founder and Member of the Board.

WILLOW GARAGE   Menlo Park, CA
January 2011–March 2013
Research Engineer, Object Recognition (2d/3d), OpenCV developement and management, SLAM, ROS infrastructure.

VIDEOSURF   San Mateo, CA
March 2009–January 2011
Software Engineer, Face Recognition, Video Summary, Video Pipeline Optimizations.

UNIVERSITY OF CALIFORNIA, SAN DIEGO   La Jolla, CA
January 2004–March 2009
Graduate Student Researcher, Department of Computer Science and Engineering.

CENTER FOR INTERDISCIPLINARY SCIENCE FOR ART, ARCHITECTURE
AND ARCHAEOLOGY (CISA3)   La Jolla, CA
June 2007–September 2007
Intern, Painting Panoramas, High Resolution Mosaics.

CALIT2   La Jolla, CA
June 2005–September 2005
Intern, Visual Crowd Management, *RESCUE* Project.

UNIVERSITY OF CALIFORNIA, SAN DIEGO   La Jolla, CA
May 2003–December 2004
Intern, Animal Behavior Analysis, *Smart Vivarium* Project.

CENTRE NATIONAL D'ETUDES SPATIALES (CNES)   Toulouse, France
Summer and Fall 2002

Intern, Space Mechanics Department, French Space Agency.

OFFICE NATIONAL D'ETUDES ET DE RECHERCHES AEROSPATIALES (ONERA)   Toulouse, France
Spring 2002
Intern, Flight Mechanics Department.

DYNAFLOW-INC   Jessup, MD
Spring 2001
Intern, Fluid Mechanics Modeling.

Teaching Experience

UNIVERSITY OF CALIFORNIA, SAN DIEGO   La Jolla, CA
CSE252C, *Object Recognition*, Fall 2007: Teaching Assistant
CSE166, *Image Processing*, Fall 2007: Teaching Assistant

Professional Activities

Co-founder and member of the board of the OpenCV foundation.

Reviewer: IEEE International Conference on Computer Vision, IEEE Conference on Computer Vision and Pattern Recognition, SIGGRAPH, IEEE Transaction on Pattern Analysis and Machine Intelligence, International Journal of Computer Vision

Organizer of Pixel-Cafe, the weekly vision and graphics seminar at UCSD.

IEEE member, 2005-present

Skills   *Skills*: Vision (SfM, web video analysis, image retrieval, objec trecognition), Robotics, Management
Programming Languages: C++, Python, Javascript
Programming Libraries: OpenCV, ROS, Boost, OpenMP, TBB, PVM, MPI
Extra Interests: Android, Drupal, PHP, MySQL
Languages: French (native), English (fluent), Spanish (fluent), Portuguese (beginner), Italian (beginner)

Software   *ROS packages*: maintainer/developer of 50 ROS packages and involved in the core development.

Recognition Kitchen: set of tools to develop and execute object recognition.

Surveillance Video Entertainment System, (SVEN): real-time tracking of pedestrians incorporating appearance description, face detection and facial expression analysis.

Painting Panorama: fast and memory efficient panorama software for very high resolution images of paintings. Incorporates sparse bundle adjustment, sift and camera auto calibration.

Vincent's Structure from Motion Toolbox for Matlab: toolbox including many common structure from motion algorithms (e.g. rigid, non-rigid, bundle adjustment, visualization).

Journal Articles
A. Ziegler, E. Christiansen, V. Rabaud, S. Belongie, D. Kriegman, "In submission", *IEEE Transaction on Pattern Analysis and Machine Intelligence* (**PAMI, in preparation**), 2013.

Papers in Reviewed Proceedings

E. Christiansen, V. Rabaud, S. Belongie, "Hidden title", *IEEE International Conference in Computer Vision*, (**ICCV, in preparation**), 2013.

A. Ziegler, E. Christiansen, V. Rabaud, S. Belongie, D. Kriegman, "Match-time covariance for descriptors", **BMVC**, 2013.

S. Leutenegger, P. T. Furgale, V. Rabaud, M. Chli, K. Konolige and R. Siegwart, "Visual SLAM for small Unmanned Aerial Vehicles", (**RSS**), 2013.

M. Dimashova, I. Lysenkov, V. Rabaud, V. Eruhimov "Tabletop Object Scanning with an RGB-D Sensor" , 3rd Workshop on Semantic Perception, **ICRA**, 2013.

I. Lysenkov, V. Rabaud, "Pose Estimation of Rigid Transparent Objects in Transparent Clutter" , **ICRA**, 2013.

E. Rublee, V. Rabaud, K. Konolige and G. Bradski, "ORB: an efficient alternative to SIFT or SURF" , *IEEE International Conference in Computer Vision*, (**ICCV**), 2011.

V. Rabaud and S. Belongie, "Linear Embeddings in Non-Rigid Structure from Motion" , *IEEE Conference on Computer Vision and Pattern Recognition*, (**CVPR**), 2009.

V. Rabaud and S. Belongie, "Re-Thinking Non-Rigid Structure From Motion" , *IEEE Conference on Computer Vision and Pattern Recognition*, (**CVPR**), 2008.

S. Steinbach, V. Rabaud and S. Belongie, "Soylent Grid: it's made of People !" , *Interactive Computer Vision, in conjunction with ICCV*, (**ICV**), 2007.

P. Dollár, V. Rabaud and S. Belongie', "Non-Isometric Manifold Learning: Analysis and an Algorithm", *International Conference on Machine Learning*, (**ICML**), 2007.

P. Dollár, V. Rabaud and S. Belongie, "Learning to Traverse Image Manifolds" , *Neural Information Processing Systems*, (**NIPS**), 2006.

V. Rabaud and S. Belongie, "Counting Crowded Moving Objects,", *IEEE Conference on Computer Vision and Pattern Recognition*, (**CVPR**), 2006, pp. 705- 711, vol. 1.

P. Dollár, V. Rabaud, G. Cottrell and S. Belongie, "Behavior Recognition via Sparse Spatio-Temporal Features," *Joint International Workshop on Visual Surveillance and Performance Evaluation of Tracking and Surveillance*, (**VS-PETS**), 2005.

S. Belongie, K. Branson, P. Dollár, and V. Rabaud, "Monitoring Animal Behavior in the Smart Vivarium," *International Conference on Methods and Techniques in Behavioral Research*, 2005.

V. Rabaud and S. Belongie, "Big Little Icons," *IEEE Workshop on Computer Vision Applications for the Visually Impaired, in conjunction with CVPR*, (**CVAVI**), 2005.

K. Branson, V. Rabaud and S. Belongie, "Three Brown Mice: See How They Run," *Joint International Workshop on Visual Surveillance and Performance Evaluation of Tracking and Surveillance*, (**VSPETS**), 2003, pp. 78-85.

V. Rabaud and B. Deguine "A Geometrical Approach To Determine Blackout Windows At Launch," AAS/AIAA Space Flight Mechanics Meeting, Ponce, Puerto Rico, (**AAS**), 2003, 03-187

Video   M. Maschion, V. Rabaud and S. Belongie, *Computer Vision: Fact and Fiction*, Instructional DVD, 2005.

References

Prof. Serge Belongie
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Dr. Gary Bradski
Willow Garage, Inc.
68 Willow Road, Menlo Park, CA 94025, USA
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911 Industrial Ave, Palo Alto, CA 94303, USA
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Dr. Brian Gerkey
Open Source Robotics Foundation
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Prof. David Kriegman
University of California, San Diego Computer Science & Engineering
CSE-EBU3B 4120; 9500 Gilman Dr.; #0404 La Jolla, CA 92093-0404, USA
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