Markos Sigalas

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Academic Status

- Foundation for Research and Technology – Hellas (FORTH),
  Institute of Computer Science, Computational Vision and Robotics Laboratory
  Heraklion, Crete, Greece
  - Postdoctoral Researcher — July 2015 – Present
- University of Crete
  School of Sciences and Technology, Department of Computer Science
  Heraklion, Crete, Greece
  - PhD candidate — February 2009 – June 2015
  - Graduate student — February 2006 – December 2008
- University of the Aegean
  School of Sciences, Department of Information and Communication Systems Engineering
  Karlovassi, Samos, Greece
  - Undergraduate student — September 2000 – December 2005

Education

PH.D. | JUNE 2015 | UNIVERSITY OF CRETE

- Thesis Topic: "*Full-body pose tracking under severe occlusions: the Top View Reprojection approach*"
- Supervisor: Professor Panos Trahanias
- Area of study: Computational Vision, Human body pose recovery

M.SC. | APRIL 2009 | UNIVERSITY OF CRETE

- Thesis Topic: "*Probabilistic Gesture Recognition*"
- Supervisor: Professor Panos Trahanias
- Area of study: Computational Vision, Human body kinematics

B.SC. | DECEMBER 2005 | UNIVERSITY OF THE AEGEAN

- Thesis Topic: "*Simulation and Study of Area Coverage and Communication Algorithms for Limited-Energy Wireless Sensors*"
- Supervisor: Professor George Vouros
- Area of study: Wireless sensors, Routing algorithms

Publications

- M. Sigalas, M. Pateraki, and P. Trahanias, "*Full-body pose tracking - the Top View Reprojection approach*", in IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI), vol. PP, no. 99, 2015.
- M. Sigalas, M. Pateraki, and P. Trahanias, "*Visual Estimation of Attentive Cues in HRI: The Case of Torso and Head Pose."* in Proc. of Computer Vision Systems. Springer International Publishing, 2015. 375-388.
- M. Sigalas, M. Pateraki, and P. Trahanias. "*Robust articulated upper body pose tracking under severe occlusions.*" in Proc. of Intelligent Robots and Systems (IROS 2014), 2014 IEEE/RSJ International Conference on. IEEE, September 2014.
- M. Sigalas, M. Pateraki, I. Oikonomidis and P. Trahanias, "*Robust Model-Based 3D Torso Pose Estimation in RGB-D Sequences*", in Proc. of the 2nd IEEE Workshop on Dynamic Shape Capture and Analysis, 14th International Conference on Computer Vision, Sydney, Australia, December 2013.
- M. Giuliani, R. Petrick, M.E. Foster, A. Gaschler, A. Isard, M. Pateraki and M. Sigalas. "*Comparing task-based and socially intelligent behaviour in a robot bartender.*" Proceedings of the 15th ACM on International conference on multimodal interaction. ACM, 2013.
- M. Pateraki, M. Sigalas, G. Chliveros and P. Trahanias, "*Visual human-robot communication in social settings*", in Proc. of Workshop on Semantics, Identification and Control of Robot-Human_Environment Interaction, IEEE International Conference on Robotics and Automation (ICRA), Karlsruhe, Germany, May 2013.
- M.Sigalas, H. Baltzakis, and P. Trahanias "*Gesture recognition based on arm tracking for human-robot interaction*", in Proc. IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Taipei, Taiwan, October 2010.
- M.Sigalas, H. Baltzakis, and P. Trahanias "*Temporal gesture recognition for human-robot interaction*", in Proc. of Workshop on Multimodal Human-Robot Interfaces, 2010 IEEE International Conference on Robotics and Automation (ICRA), Anchorage, Alaska, May 3, 2010.
- M. Sigalas, H. Baltzakis, and P. Trahanias. "*Visual tracking of independently moving body and arms*". In Proc. of IEEE/RSJ International Conference on Intelligent Robotics and Systems (IROS), St. Louis, MO, USA, October 2009.
- M. Sigalas, G. Vouros, "*Energy efficient area coverage in arbitrary sensor networks*", ESWN'06 Poster Session, Zurich, Switzerland, 2006

Research Interests

Computational vision, human body kinematics, probabilistic tracking models, pattern recognition, machine learning, machine instrumentation, robot localization and mapping.

R&D Experience

- September 2006 – present
  Foundation for Research and Technology – Hellas (FORTH),
  Institute of Computer Science, Computational Vision & Robotics Laboratory (CVRL),
  Supervisor - Laboratory Head: Panos Trahanias
  Research Areas: Computational Vision, Machine Learning, Robotics, Human tracking, Gesture Recognition.

Teaching Experience

- February 2006 – present
  University of Crete, School of Sciences and Technology, Computer Science Department,
  Teaching Assistant in:
    - *Discrete Mathematics*
    - *Computer Graphics*
    - *JAVA Programming Language*
    - *Autonomous Robotic Navigation.*

Conferences Participations

- December 2013
  "ICCV 2013", 14th IEEE International Conference on Computer Vision, Sydney, Australia *Author of contributed paper and demo exhibitor*.
- June 2013
  "CVPR 2013", 26th IEEE International Conference on Computer Vision and Pattern Recognition, Portland, Oregon, USA.
  Demo exhibitor
- October 2009
  "IROS 2009", The 2009 IEEE/RSJ International Conference on Intelligent RObots and Systems, St. Louis, MO, USA,
  Author of contributed paper.
- April 2008
  "Eurographics 2008", 29th Annual Conference of the European Association for Computer Graphics, Heraklion, Crete, Greece,
  Coordination and Administration Assistance, Attendant.
- February 2006
  "EWSN 06", 3rd European Conference on Wireless Sensor Networks, Zurich, Switzerland *Poster session, Attendant.*

Work Experience

- August 2004
  "Athens Olympic Games 2004", Olympic Indoor Hall,
  UNIX and Win2K Administration for Atos Origin.
- March – April 2004
  "PASS Technologies AG", Hombrektikon, Switzerland,
  Testing, Validation & Verification of microbiological instruments (TECAN Evolyzer).

Programming Languages

- Object Oriented (C++/ JAVA)
- Web (HTML / PHP)
- Numerical Computing (MATLAB/Mathematica)

Foreign Languages

- English : Cambridge First Certificate in English
- French : D.A.L.F., Sorbonne II
- Spanish : D.E.L.E. Nivel B2