Image processing tools as first step to understand the real world

Ignazio Infantino

ICAR - CNR, Viale delle Scienze ed.11, Palermo, Italy
ignazio.infantino@cnr.it

Abstract

We

Introduction

Image processing tools as first step to understand the real world
(5; 28; 16; 3; 9; 18; 22; 4; 17; 8; 10; 2; 25; 6; 27; 21; 2; 12; 29; 30; 7; 20; 26; 32; 13; 14; 11; 33; 19; 15; 1; 35; 31; 24; Infantino et al.; Scardino et al.)

Future work

References

Augello, A., Infantino, I., Pilato, G., Rizzo, R., and Vella, F. (2013). Binding representational spaces of colors and emotions for creativity. *Biologically Inspired Cognitive Architectures*.

Chella, A., Cossentino, M., Infantino, I., and Pirrone, R. (2001). A vision agent in a distributed architecture for mobile robotics in proc. *Of Worskshop Intelligenza Artificiale, Visione e Pattern Recognition in the VII Conf. Of AI* IA (Bari, Italy*.

Chella, A., Di Gesu, V., Gerardi, G., Infantino, I., Intravaia, D., Lenzitti, B., Lo Bosco, G., Messina, A., Pirrone, R., and Storniolo, P. (1997). Daisy: a distributed architecture for intelligent system. In *Computer Architecture for Machine Perception, 1997. CAMP'97. Proceedings Fourth IEEE International Workshop on*, pages 42–50. IEEE.

Chella, A., Di Gesù, V., Infantino, I., Intravaia, D., and Valenti, C. (1999a). A cooperating strategy for objects recognition. *Shape, Contour and Grouping in Computer Vision*, pages 822–822.

Chella, A., Dindo, H., and Infantino, I. (2006a). A cognitive framework for imitation learning. *Robotics and Autonomous Systems*, 54(5):403–408.

Chella, A., Dindo, H., and Infantino, I. (2006b). Learning high-level tasks through imitation. In *Intelligent Robots and Systems, 2006 IEEE/RSJ International Conference on*, pages 3648–3654. IEEE.

Chella, A., Dindo, H., and Infantino, I. (2006c). People tracking and posture recognition for human-robot interaction. *proc. of International Workshop on Vision Based Human-Robot Interaction, EUROS-2006*.

Chella, A., Dindo, H., and Infantino, I. (2007). Imitation learning and anchoring through conceptual spaces. *Applied Artificial Intelligence*, 21(4-5):343–359.

Chella, A., Džindo, H., Infantino, I., and Macaluso, I. (2004). A posture sequence learning system for an anthropomorphic robotic hand. *Robotics and Autonomous Systems*, 47(2):143–152.

Chella, A., Gaglio, S., Guarino, D., and Infantino, I. (1999b). An artificial high-level vision agent for the interpretation of the operations of a robotic arm. *EUROPEAN SPACE AGENCY-PUBLICATIONS-ESA SP*, 440:693–698.

Chella, A., Infantino, I., and Macaluso, I. (2003). Conceptual spaces and robotic emotions. In *Systems, Man and Cybernetics, 2004 IEEE International Conference on*, volume 1, pages 144–149. IEEE.

Gaglio, S., Infantino, I., Pilato, G., Rizzo, R., and Vella, F. (2011). Vision and emotional flow in a cognitive architecture for human-machine interaction. In *BICA*, pages 112–117.

Infantino, I. (2012). Affective human-humanoid interaction through cognitive architecture. In *The Future of Humanoid Robots - Research and Applications, ISBN: 978-953-307-951-6*, pages 147–156. InTech.

Infantino, I. and Bianco, R. L. (2004). A rapid and efficient method for determination of fruit peel color. *HortScience*, 39(4):842–842.

Infantino, I. and Chella, A. (2001). Architectural scenes reconstruction from uncalibrated photos and map based model knowledge. *AI* IA 2001: Advances in Artificial Intelligence*, pages 356–361.

Infantino, I., Chella, A., Dindo, H., and Macaluso, I. (2005a). A cognitive architecture for robotic hand posture learning. *Systems, Man, and Cybernetics, Part C: Applications and Reviews, IEEE Transactions on*, 35(1):42–52.

Infantino, I., Chella, A., Dzindo, H., and Macaluso, I. (2003). Visual control of a robotic hand. In *Intelligent Robots and Systems, 2003.(IROS 2003). Proceedings. 2003 IEEE/RSJ International Conference on*, volume 2, pages 1266–1271. IEEE.

Infantino, I., Chella, A., Dzindo, H., and Macaluso, I. (2004). A posture sequence learning system for an anthropomorphic robotic hand. *Robotics and Autonomous Systems*, 42:143–152.

Infantino, I., Cimò, A., Gentile, A., and Chella, A. (2002a). A vision agent for robotics: Implementation on a simd machine.

Infantino, I., Cipolla, R., and Chella, A. (2000). Reconstruction of architectural scenes from uncalibrated photos and maps.

Infantino, I., Cipolla, R., and Chella, A. (2001). Reconstruction of architectural scenes from uncalibrated photos and maps. *IEICE TRANSACTIONS ON INFORMATION AND SYSTEMS E SERIES D*, 84(12):1620–1625.

Infantino, I., Cossentino, M., and Chella, A. (2002b). An agent based multilevel architecture for robotics vision systems. *Proceedings of the International Conference on Artificial Intelligence, IC-AI02, June 24-27, 2002, Las Vegas, Nevada, USA*, 1:386–390.

Infantino, I., Lodato, C., and Lopes, S. Microarray data and image simulation.

Infantino, I., Lodato, C., and Lopes, S. (2008a). Testing and evaluation of microarray image analysis software. In *Complex, Intelligent and Software Intensive Systems, 2008. CISIS 2008. International Conference on*, pages 655–660. IEEE.

Infantino, I., Lodato, C., Lopes, S., and Vella, F. (2008b). Human-humanoid interaction by an intentional system. In *Humanoid Robots, 2008. Humanoids 2008. 8th IEEE-RAS International Conference on*, pages 573–578. IEEE.

Infantino, I., Pilato, G., Rizzo, R., and Vella, F. (2013). I feel blue: Robots and humans sharing color representation for emotional cognitive interaction. In *Biologically Inspired Cognitive Architectures 2012*, pages 161–166. Springer Berlin Heidelberg.

Infantino, I., Rizzo, R., and Gaglio, S. (2005b). A system for sign language sentence recognition based on common sense context. In *Computer as a Tool, 2005. EUROCON 2005. The International Conference on*, volume 2, pages 1421–1424. IEEE.

Infantino, I., Rizzo, R., and Gaglio, S. (2007). A framework for sign language sentence recognition by commonsense context. *Systems, Man, and Cybernetics, Part C: Applications and Reviews, IEEE Transactions on*, 37(5):1034–1039.

Infantino, I., Spoto, G., Vella, F., and Gaglio, S. (2010a). Composition of sift features for robust image representation. *Proceedings of SPIE*, 7540:754016.

Infantino, I., Vella, F., Spoto, G., and Gaglio, S. (2009). Image representation with bag of bi-sift. In *Signal-Image Technology & Internet-Based Systems (SITIS), 2009 Fifth International Conference on*, pages 287–293. IEEE.

Infantino, I., Vella, F., Spoto, G., and Gaglio, S. (2010b). bi-sift: Towards a semantically relevant local descriptor. *JMPT*, 1(1):63–73.

Pilato, G., Rizzo, R., Vella, F., and Infantino, I. (2012). Human-robot interaction based on introspective capability. In *Complex, Intelligent and Software Intensive Systems (CISIS), 2012 Sixth International Conference on*, pages 461–468. IEEE.

Ruisi, A., Cossentino, M., Infantino, I., Chella, A., and Pirrone, R. (2002). A cooperative agent based architecture for environmental exploration and knowledge sharing by vision. *IROS-2002 Workshop on Cooperative Robotics-October*, 1.

Scardino, G., Infantino, I., and Gaglio, S. Automated object shape modelling by clustering of web images.

Vella, F., Infantino, I., Gaglio, S., and Vetrano, G. (2012). Image segmentation through a hierarchy of minimum spanning trees. In *Signal Image Technology and Internet Based Systems (SITIS), 2012 Eighth International Conference on*, pages 381–388. IEEE.