

Dr. Luciano Spinello

Curriculum Vitae

Fields of Interest

Scene analysis, robot learning and perception, multi-modal sensor fusion, people tracking

Academic Positions

- Since Jan 2012 Postdoctoral research associate at Autonomous Intelligent Systems (AIS) Lab, headed by Prof. Dr. Wolfram Burgard, University of Freiburg, Germany.
- Jan 2010-Jan 2012 Postdoctoral research associate at Social Robotics Lab (SRL), headed by Prof. Dr. Kai Arras, University of Freiburg, Germany.
- Jan 2006-Dec 2009 Research assistant and doctoral student at the ASL, headed by Prof. Dr. R. Y. Siegwart, ETH Zurich, Switzerland.
- Nov 2005-Dec 2005 Research assistant at the ASL, Prof. Dr. R. Y. Siegwart, EPFL, Switzerland

Education

- Jan 2006-Dec 2009 PhD degree, Autonomous System Lab (ASL) of Prof. R. Y. Siegwart, ETH Zurich, Switzerland.
Thesis title: "Scene Analysis for Mobile Robots".
- May 2003-May 2005 Master's degree in automation and robotics engineering from University "Tor Vergata", Rome, Italy. Emphasis in robotics, computer science, and control systems.
Thesis title: "Solving the SLAM problem through particle filters and extended Kalman filter".
- Oct 1999-May 2003 Bachelor's degree in computer engineering from University "Tor Vergata", Rome, Italy. Emphasis in robotics, computer science, and control systems
Thesis title: "Design and development of a device for statistical retrieval of occupancy of a car parking slot".

Awards and Distinctions

- 2010 Selected as one of the ten best PhD thesis for the EURON award 2010
- 2009 Best paper nomination in Int. Conf. of Field and Service Robotics (FSR 2009)
- 2006 Second place for the "Best Innovative Thesis" award, an Italian nationwide award for diploma theses sponsored by Altran Corporation, Rome, Italy
- 2005 *Summa cum laude* Master of Science graduation, University "Tor Vergata", Rome, Italy

Involvement in Funded Research Projects

- 2014- National Project ROTAH
ROTAH: Robot Task Learning by Active Tracking of Hands. Involved in writing the proposal. Shared the responsibility of coordinating research in the lab. Responsible person of University of Freiburg for the research activities.
- 2014- Project with DAIMLER (Mercedes-Benz)
Involved in writing the proposal. Principal investigator. Shared the responsibility of coordinating research in the lab.
- 2011- EU ERC Grant LIFENAV
LIFENAV - Reliable Lifelong Navigation for Mobile Robots. Shared the responsibility of coordinating research in the lab.
- 2013- EU Project STAMINA
STAMINA: SusTAINable and reliable robotics for part handling in Manufacturing and Automation. Involved in writing the proposal. Principal investigator. Shared the responsibility of coordinating research in the lab. Responsible person of University of Freiburg for the research activities.
- 2013- EU Project ROVINA
ROVINA - Robots for Exploration, Digital Preservation and Visualization of Archeological Sites. Shared the responsibility of coordinating research in the lab.
- 2010-2013 EU Project RADHAR
RADHAR - Robotic ADaptation to Humans Adapting to Robots. Employed and shared the responsibility of coordinating research in the lab. Responsible person of University of Freiburg for the research activities.
- 2012-2013 German Project iView
Intelligent Vision for Blind Persons. Employed and shared the responsibility of coordinating research in the lab.
- 2011-2014 EU Project TAPAS
TAPAS - Robotics-enabled Logistics and Assistive Services for the Transformable Factory of the Future. Employed and shared the responsibility of coordinating research in the lab.
- 2010-2012 SFB/TR-8 "Spatial Cognition"
Project N1-SocialSpace, funded by German Research Foundation (DFG). Employed and contributed to this project.
- 2006-2009 EU project BACS
BACS - Bayesian Approach to Cognitive Systems. Integrated project, funded by the European Commission. Employed and contributed to this project.

Academic Activities

- Organizer of the workshop "Non-parametric Learning in Robotics", RSS 2014
- Organizer of the workshop "Lifelong learning for mobile robotics applications", IROS 2012
- Program committee member: RSS 2011-2014, ICCV 2011, KI 2011-2013
- Invited talk at "People Detection and Tracking Workshop", ICRA 2009
- Session chair in the session "Localisation, ... , Sensor fusion", ICRA 2013
- Session chair in the session "Vision-Based Attention and Interaction", ICRA 2012
- Session chair in the session "Human Detection and Tracking II", ICRA 2011
- Session co-chair in the session "Int. Vehicles & In. Transp. Systems", IROS 2008
- Reviewer for journals: IJRR, IEEE T-RO, IJFR, IMAVIS, SORO, TIST, JAIR, IEEE Robotics and Automation Magazine
- Reviewer for conferences: ICRA, NIPS, IROS, ECCV, ICCV, RSS, KI, HRI, ECMR
- Author of thirty-three papers published in major robotics, computer vision and artificial intelligence conferences (ECCV, ICRA, AAI, IROS, FSR, ISER, IFAC), a journal (IJRR) and a book chapter (Springer HandBook of Intelligent Vehicles)

Academic Supervision Activity

Phd students: N. Abdo, P. Agarwal, T. Naseer, B. Suger, M. Mazuran, C. Sprunk

Master of Science students: N. Radwan, M. Ahl, I. Bogoslavski, A. Molina, B. Behzadian, J. Stork, J. Silva, M. Maier

Teaching

- 2013-14 Co-lecturer for *Mobile Robotics* with Prof. Dr. W. Burgard, Lecture, 4 h/week
- 2012 Co-instructor for *People Localization* with PD Dr. C. Stachniss, Practical Course, 4 h/week
- 2012 Co-instructor for *Robot Perception* with Prof. Dr. W. Burgard, Seminar Course, 2 h/week
- 2011 Co-instructor for *Topics of Social Robotics* with Prof. K. Arras, Seminar Course, 2 h/week
- 2006-09 Co-examiner of the "Autonomous Systems" course by Prof. R. Y. Siegwart
- 2006-09 Lab instructor for exercises of the "Autonomous Systems" course by Prof. R. Y. Siegwart
- 2007 Lab instructor for "Innovation Project" course by Prof. R. Y. Siegwart
- 2006-09 Supervisor of two diploma/master's theses and five semester projects, ASL-ETH Zurich
- 2010-11 Organizer and speaker of SRL Reading Group, SRL-Univ. of Freiburg
- 2008-09 Organizer and speaker of ASL Tutorial Workshops, ASL-ETH Zurich

Co-Supervised Theses

- 2014 M. Ahl. Master Thesis, co-supervisor with Prof. W. Burgard, University of Freiburg, Germany.
Title: "Verbal description of places from camera data"
- 2014 I. Bogoslavski. Master Thesis, co-supervisor with PD Dr. C. Stachniss, University of Freiburg, Germany.
Title: "Autonomous mapping and prediction of parking spaces by using camera images"
- 2013 A. Molina. Master Thesis, co-supervisor with PD Dr. C. Stachniss, University of Freiburg, Germany.
Title: "Proof-of-concept Semantic Labeling to Improve Localization in Appearance Space"
- 2013 B. Behzadian. Master Thesis (Erasmus), co-supervisor with Prof. W. Burgard, University of Freiburg, Germany.
Title: "Particle Filter Localization on a Sketched Map"
- 2012 J. Stork. Master Thesis, co-supervisor with Prof. K. Arras, University of Freiburg, Germany.
Title: "Audio-Based Human Activity Recognition Using Non-Markovian Ensemble Voting"
- 2012 J. Silva. Master Thesis, co-supervisor with Prof. K. Arras, University of Freiburg, Germany.
Title: "Socially Acceptable Robot Navigation: A Learning Approach"
- 2010 M. Maier. Diploma Thesis, co-supervisor with Prof. K. Arras, University of Freiburg, Germany.
Title: "Simultaneous Segmentation, Detection and Tracking of People in 2D Range Data"

Software Projects

- 2013 LibGeFP – Geometrical FLIRT Phrases: open source large scale place recognition in 2D range data software
- 2011 Public release of fully annotated RGBD people tracking dataset
- 2011 Public release of fully annotated 3D range data-based people tracking dataset
- 2011 PEOPLE2D: open source fast 2D people detection software
- 2006-09 Development of "SMARTTER", an autonomous robot based on a commercial Smart vehicle. Development of software modules for 2D/3D camera/laser sensor and data processing
- 2008 AXTCAMERA: toolbox for calibrating Ibeo Alasca laser-scanner and monocular cameras