Curriculum Vitæ

Gian-Luca Mariottini

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Education

Dec.2002 - Feb.2006 **Ph.D. in Computer and Electrical Eng.**, University of Siena
Dept. of Engineering Information (DII), Siena, ITALY
Topic: Image-based Robot Navigation using Computer Vision Techniques
Advisors: Prof. Domenico Prattichizzo, Prof. Antonio Vicino.

Oct.1996 - Oct.2002 **Laurea Degree (B.Sc., M.Sc.) in Computer and Electrical Eng.**, University of Siena
(110/110 with honors - *summa cum laude*) in Robot Navigation from Objects' Silhouette
Advisors: Prof. Domenico Prattichizzo, Prof. Antonio Vicino.

Positions held

Sept.2010 - now **Assistant Professor**, Computer Science and Engineering Dept.
University of Texas at Arlington, Arlington, TX

Oct.2008 - June2010 **Postdoctoral associate**, Computer Science and Electr. Eng. Dept.
University of Minnesota, Minneapolis, MN
Topics: - Active Vision-based Localization and Navigation in Large Environments
- 3-D Localization and Mapping for the Visually Impaired
Advisor: Prof. Stergios Roumeliotis

Dec.2007 - Oct.2008 **Postdoctoral fellow**, College of Computing
Georgia Institute of Technology, Atlanta, GA
Topic: Wearable Localization System for the Visually Impaired (SWAN project)
Advisor: Prof. Frank Dellaert

Jan.2007 - June2007 **Visiting Scientist**, GRASP Laboratory, Dept. of Computer Science
University of Pennsylvania, Philadelphia, PA
Topic: Vision-based Multi-robot Localization and Navigation
Advisor: Prof. Kostas Daniilidis

Oct.2005 - Oct.2007 **Research Associate**, Dept. of Engineering Information (DII)
University of Siena, Siena, Italy
Topic: Single and Multi-robot Systems and Computer Vision
Advisor: Prof. Domenico Prattichizzo

Nov.2004 - Apr.2005 **Visiting Student**, GRASP Laboratory, Dept. of Computer Science
University of Pennsylvania, Philadelphia, PA
Topic: Nonlinear Observability and Localization for Vision-based Multi-Robot Systems
Advisors: Prof. Kostas Daniilidis, Prof. George J. Pappas

Research Areas

My broad research areas are robotics and computer vision, while my specific focus is on **endoscopic vision**, **medical applications**, and **assistive robotics**. A list of my most-recent research projects is the following:

- Surgical Vision: Medical Imaging for Minimally-Invasive Laparoscopic Surgery
- Augmented Colonoscopy: Localization of Flexible Endoscopes
- Vision-based Multi-Robot Localization and Control
- Visual Servoing
- Robot Localization for Assistive Environments

More information can be found at the ASTRA Robotics and Vision Laboratory website.

Current Research and Collaborations

Surgical Vision: Augmented-Reality for Minimally-Invasive Surgery (MIS)

(In collaboration with Dr. J.A. Cadeddu, Urology Dept.& Radiology Dept., UT Southwestern Medical Center)

Synopsis: Augmented reality enhances the surgeons awareness of hidden high-risk anatomical structures (vessels, margins of a tumor, etc.) by superimposing preoperative CT 3-D organ model onto the surgeon's laparoscopic video. Our research focuses on the design of such AR system. We recently implemented a novel algorithm that automatically matches image features in laparoscopic videos, thus dealing with the problem of strong and complete camera occlusions. The proposed method does not assume any knowledge about the 3-D structure of the observed organs, and can match 2-D features according to their local relative position on the organ surface. Our research is moving towards long-term laparoscopic registration.

Website: `http://astra.uta.edu/research/endoscopic_vision`

Localization of Flexible Endoscopes for Automatic Robotic Colonoscopy

(In collaboration with P. Valdastri, Dept. Mech. Eng., Vanderbilt University)

Synopsis: Teleoperated flexible endoscopes are an emerging technology to promote participation in preventive screenings for colorectal cancer, one of the leading causes of cancer-related deaths worldwide. Real-time pose estimation is essential to enable feedback to the robotic endoscopes control system. As such, vision-based endoscope localization approaches are a promising avenue, since they do not require extra sensors on board of the endoscopes. This research topic deals with designing novel, accurate, and robust endoscopic localization techniques to estimate the motion of the endoscope by means of image information. The overall goal is to study new supervised and unsupervised endoscope localization methods in such a challenging environment (with deformations, image blurs, distortions, and a large portion of uninformative frames.)

Website: `http://astra.uta.edu/research/augmented_colonoscopy`

Assistive Robtics: Target Tracking with Application to Gait Monitoring

(In collaboration with the Kinesiology Dept., University of Texas at Arlington)

Our goal is to enable robots with the capability of monitoring a person undergoing rehabilitation exercises. We are working to study novel vision-sensor calibration algorithms that will allow us to obtain a better perception of the environment. We are also studying active cooperative target-tracking strategies for a team of heterogeneous robots. Our strategies are active, in the sense that the robot(s) will move to track the target along the more informative viewpoints.

Active Vision-based Localization in Large GPS-denied Environment

(In collaboration with: **Prof. Stergios Roumeliotis**, CSE Dept., University of Minnesota)

We are designing a complete framework for mobile robot active localization and navigation in a visual-memory database, using *only* a monocular camera as on-board sensor. The algorithm uses a bag-of-features image database (created during a previous robot exploration phase) to determine the current robot's location in a large-scale (e.g., city-scale). Since vision-based location recognition in a database with million of images can ambiguously lead to an erroneous belief about the current location of the robot, I designed an active Bayesian approach that uses data from additional images collected by the camera, while moving along a selected path towards the desired destination.

A 3D Localization and Mapping Aid for the Visually Impaired

(In collaboration with: **Prof. Stergios Roumeliotis**, CSE Dept., University of Minnesota)

Designed a portable indoor 3D localization and mapping system mounted on a white cane for the visually impaired. At the basis of this system is an Extended Kalman Filter (EKF) which estimates the 6 DOF position and orientation (pose) of the person, as well as the map of the building. The sensing platform consists of an Inertial Measurement Unit (IMU) and a 2D laser scanner which scans planar features belonging to the surrounding scene (e.g., walls, doors, etc.). Experimental results from a multistory building are presented that demonstrate the reliability of the proposed method for accurate and real-time indoor localization and mapping.

Web: `http://www.cs.umn.edu/~gianluca/research/index.html`

Student Advisees

Ph.D. Students

- Gustavo Armando, Puerto Souza (defense: Summer 2015) (Sept.2010 - now)
- Aaron Staranowicz (defense: Summer 2015) (Sept. 2010 - now)
- Mostafa Parchami (Sept, 2013 - now)

Master Students

- Sharath V. Kumar (Jan., 2015 - now)

Undergraduate Students

- Garrett Brown (May 2012 - now)
- Han Zhang (May 2015 - now)
- Juanita Hawley (May 2014 - Jan. 2015)

Alumni

- Dr. Fabio Morbidi (PostDoc from Sept.28th, 2010 - Aug.24th, 2011), now Assistant Professor at the Universite de Picardie Jules Verne, France.

Awards and Students Awards

- *"Best Paper Award"* at the Pacific Rim Symposium on Image and Video Technology, 2013 for our paper "Wide-Baseline Dense Feature Matching for Endoscopic Images".
- G. Puerto, *"Support from UTSW Urology Dept. (Spring and Summer 2013)"*, J. Cadeddu, M.D., Dec. 2012.
- G. Puerto, *"MICCAI Travel Award"*, MICCAI Society, Oct., 2012.
- G. Puerto, *"NSF Travel Award to IROS 2012"*, NSF, Oct., 2012.
- G. Puerto, *"NSF Travel Award to IROS 2011"*, NSF, Oct., 2011.

Teaching Experience

Jan.2015 - May 2015 **CSE 4360/5364 - "Introduction to Robotics"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE4360-5364/`
- 27 Students (20 ugrads, 7 grads),

Aug.2014 - Dec.2014 **CSE 4392/5369 - "Robotic Vision: Sensing, Localization and Control"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE4392-5369/`
- New course-material and software (this year anew module on **probabilistic robotics**)
- 20 Students

Aug.2014 - Dec.2014 **CSE 1310 - "Introduction to Computers and Programming"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE1310/`
- New course-material and software.
- 45 Students

Jan.2014 - May.2014 **CSE 1310 - "Introduction to Computers and Programming"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE1310_S14/`
- 40 Students

Aug.2013 - Dec.2013 **CSE 4392/5369 - "Robotic Vision: Sensing, Localization and Control"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE4392-5369/`
- New course-material and software (this year anew module on **probabilistic robotics**)
- 21 Students

Aug.2013 - Dec.2013 **CSE 1310 - "Introduction to Computers and Programming"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE1310/`
- New course-material and software.
- 51 Students

Jan.2013 - May.2013 **CSE 1310 - "Introduction to Computers and Programming"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE1310/`
- New course-material and software.
- 50 Students

Aug.2012 - Dec.2012 **CSE 1310 - "Introduction to Computers and Programming"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE1310/`
- New course-material and software.
- 50 Students

Aug.2012 - Dec.2012 **CSE 4392/5369 - "Robotic Vision: Sensing, Localization and Control"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE4392-5369/`
- New course-material and software (this year anew module on **probabilistic robotics**)
- 20 Students

Jan.2012 - May.2012 **CSE 1310 - "Introduction to Computers and Programming"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE1310/`
- New course-material and software.
- 44 Students

Aug.2011 - Dec.2011 **CSE 4392/5369 - "Vision-based Robot Sensing, Localization and Control"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE4392-5369/`
- Second-time offered newly-developed course, with new course-material and software.
- 24 Students (6 ugrads, 18 grads), also from EE, MAE and BioEng. Depts., UTA.

Jan.2011 - May.2011 **CSE 4360/5364 - "Autonomous Robots"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE4360-5364/`
- 25 Students (19 ugrads, 6 grads), also from EE Dept., UTA.

Aug.2010 - Dec.2010 **CSE 4392/5369 - "Vision-based Robot Sensing, Localization and Control"**
Computer Science and Engineering Dept., Univ. of Texas at Arlington, Arlington, US
- *Web:* `http://ranger.uta.edu/~gianluca/teaching/CSE4392-5369/`
- First-time offered and newly-developed course, with new course-material and software.
- 24 Students (5 ugrads, 19 grads), also from EE and MAE Depts., UTA.

Mar.2010 - May.2010 **Senior Design Project**, CSE Dept., Univ. of Minnesota
- Tutored five students for the design and development of a vision-based climbing-stair strategy for tracked robot.

Spring 2009 Attended **"GRAD 8101 - Teaching in Higher Education"** (w/ credits)
- University of Minnesota, MN.

Nov.2007 - Dec.2007 **Instructor for XVII Week of technology: Robotics**, Montepulciano (SI), Italy
- Taught classes to high-school students on robotics foundations (20 hours) and realized course slides, and group projects with LEGO Mindstorm NXT.
- 20 participants.

Jun.2005 - Jul.2005 **Instructor for I.F.T.S., Industrial Course in Robotics**, Grosseto (GR), Italy
- Taught classes on robotics foundations (12 hours) and realized course slides, notes and software.
- 15 participants from automation companies.

Jan.2005 - Mar.2005 **Teaching Assistant for the "Robotics and Vision"** course (Prof. D.Prattichizzo)
- University of Siena, graduate students of CSEE Dept.
- Taught classes, prepared homeworks and finals, realized course slides and notes.
- Over 30 students.

May.2005 - Jun.2005 **Instructor for ITIS, Industrial Automation Course**, Grosseto (GR), Italy
- Taught classes on Robotics and Image Processing and realized course slides and software.
- 15 participants from automation companies.

Jan.2004 - Mar.2004 **Teaching Assistant for the "Robotics"** course (Prof. A. Giannitrapani)
- University of Siena, graduate students of CSEE Dept. (Arezzo)
- Taught classes, prepared homeworks and finals, realized course slides and notes.
- Over 30 students.

Jan.2004 - Mar.2004 **Teaching Assistant for the "Robotics and Vision"** course (Prof. D.Prattichizzo)
- University of Siena, graduate students of CSEE Dept.
- Taught classes, prepared homeworks and finals, realized course slides and notes
- Over 50 students

Mar.2004 - Apr.2004 **Teaching Assistant for the "Robotics Foundations"** course
- University of Siena, undergraduate students of CSEE Dept.
- Taught classes on robotics and image processing and realized course slides and software.
- 15 participants from automation companies.

Apr.2003 - Jul.2003 **Teaching Assistant for the "Automation Fundamentals"** course (D.Prattichizzo)
- University of Siena, undergraduate students of CSEE Dept.
- Taught classes, prepared homeworks and finals
- Over 100 students

Jan.2003 - Mar.2003 **Teaching Assistant for the "Robotics and Automation"** course (D.Prattichizzo)
- University of Siena, undergraduate students of CSEE Dept.
- Taught classes, prepared homeworks and finals, realized course slides and notes
- Over 50 students

Co-advised more than 30 Master and Ph.D. students for their theses in Robotics, Automation and Computer Vision.

Funded Proposals

I have authored many grant proposals and have been awarded as PI and co-PI for over 1 million dollars by NSF, Kidney Texas Foundation, DoE, and DARPA.

- **G.L. Mariottini** (PI), R. Gatchel, H. Liu, C. Ray (co-PIs)

  "The Effective ness of Objective Monitoring and Exercise Intervention for Chronic Low-Back Pain Management", awarded by the UTA Interdisciplinary Research Program, $20,000.00, (8/1/15 - 7/31/16).

- F. Makedon (PD/co-PI), **G.L. Mariottini** (co-PI)

  "I/UCRC Phase I: iPerform - I/UCRC for Assistive Technologies to Enhance Human Performance", awarded by the National Science Foundation, $117,644.00, (8/14 - 8/19).

- **G.L. Mariottini** (PI)

  "Technology Education Academy", awarded by the Arlington Tomorrow Foundation, $25,259.00, (2013-2014).

- **G.L. Mariottini** (PI)

  "Automatic and High-Speed Machine Vision System for Brand Recognition", Research grant awarded by ICC (Innovative Conveyor Concepts), $75,314.00 (Feb. 1, 2014 - Aug 1, 2014)

- F. Makedon (PD/co-PI), **G.L. Mariottini** (co-PI), et al.

  "Doctoral Consortium and Student-author Travel for PETRA14 conference", NSF IIS, $25,415.00 (Dec 1, 2014 - Nov 30, 2015)

- F. Makedon (PD/co-PI), **G.L. Mariottini** (co-PI), et al.

  "Doctoral Consortium and Student-author Travel for PETRA13 conference", NSF IIS, $27,018.00, (Feb 13, 2013 - Jan 23, 2014)

- **G.L. Mariottini** (PI)

  "Augmented Reality for Improved Laparoscopic Surgery", Student Support from UTSW, $10,979.00, (Nov.30, 2012 - Oct.30, 2013)

- **G.L. Mariottini** (PI)

  "Improved surgery precision with Surg3D: A software system for the accurate overlay of radiological data onto live surgical video", UTA REP, $9,000.00, (Jun 1, 2012 - May 31, 2013)

- D. Popa (PD/co-PI), **G.L. Mariottini** (co-PI), et al.

  "DARPA Robotics Challenge - Part 1.B", DARPA, $86,464.00 (UTA portion: 26,446.86), (Oct 4, 2012 - May 31, 2013)

- G. Zaruba (PD/co-PI), **G.L. Mariottini** (co-PI), et al.

  "Graduate Assistance in Areas of National Need - Educating Health Informatics Researchers at the Computer Science and Engineering Department of The University of Texas at Arlington (GAAN)", DoE, $533,064.00, (9/1/2011 - 8/1/2016)

- F. Makedon (PD/co-PI), **G.L. Mariottini** (co-PI), et al.

  "Doctoral Consortium and Student-author Travel for PETRA12 conference", NSF IIS, $23,380.00, (Jun 1, 2012 - May 31, 2013)

- F. Makedon (PD/co-PI), **G.L. Mariottini** (co-PI), et al.

  "WORKSHOP: Doctoral Consortium at the PETRA 2011 Conference", NSF IIS, $20,660.00, (Jun 1, 2011 - May 31, 2012)

- J.A. Cadeddu (PD/co-PI), **G.L. Mariottini** (co-PI)

  "Augmented-Reality System for Improved Precision in Robotic Kidney Surgery", Kidney Texas Foundation, $60,390.00 (UTA portion: $18,811.00), (2013 - 2014)

  Note: This grant was a special submission from the President of UTSW, Dallas, to the Kidney Texas Foundation in Dallas, and our collaborator J.Cadeddu was awarded with this amount. The award will support purchase of equipment for the development of our Surgical Vision software. I participated in writing most part of the grant and providing the reported preliminary results.

Developed Software

- **Epipolar Geometry Toolbox (EGT)** for MATLAB

  In these years we have observed the need for a software environment that could help researchers to rapidly create single- and multi-camera simulation scenarios to test localization, SfM and vision-based (visual servoing) algorithms. With EGT we provide a wide set of easy-to-use, but also completely customizable, functions for 3-D camera placement, scene reconstruction and camera-pose estimation (also from real images). A distinguishable feature of EGT is the possibility to model and manipulate visual data provided both by pin-hole, stereo and panoramic cameras. Omnidirectional cameras, due to their wide field-of-view, have been recently applied in many robotics and computer vision applications. EGT can be used with the *Robotics Toolbox* by P. Corke, to design visual servoing simulations.

  EGT can be *freely downloaded* and requires Matlab 6.5 or upper. The detailed manual and a tutorial paper are provided with a large set of examples, figures and source code also for be EGT is widely used by the robotics and computer vision community

  The EGT website: `http://egt.dii.unisi.it`

Editorship

- Associate Editor of the IEEE Robotics and Automation Letters (Area: Computer Vision and Robotics)
- Organizer of the Computer-Assisted and Robotic Endoscopy (CARE) Workshop, MICCAI 2015.
- Program Chair for the 6th Int. Conf. on Pervasive technologies Related to Assistive Environment (PETRA) (http://www.petrae.org/).
- Associate Editor for IEEE Intern. Conf. Robotics and Automation (ICRA) 2014-2015.
- Editorial Board for the "International Journal of Advanced Robotic Systems".
- Area Chair for the Winter Applications of Computer Vision (WACV 2014) Conference, Colorado, US, 2014.
- Program Committee for the 11th IEEE International Symposium on Safety Security and Rescue Robotics (ISRR 2013).
- Program Committee for the Workshop on Augmented Environments for Computer-Assisted Interventions (AE-CAI), MICCAI Conf., 2012-present
- Associate Editor for IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Algarve, Portugal, 2013.
- Associate Editor for IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), San Francisco, California, 2011.
- Program Committee for the IEEE Symposium on Safety, Security, and Rescue Robot (SSRR), 2012.
- Technical Program Committee for 12th Int. Conf. Control, Automation, Robotics and Vision Conference (ICARCV), 2011

Professional Services

- Workshop organizer of *"Computer-Assisted and Robotic Endoscopy (CARE)"*, at MICCAI 2015.
- Workshop organizer of *"SurVis: 1st International Workshop on Surgical Vision"*, at the International Conference of Robotics and Automation, 2013.(`http://ranger.uta.edu/~gianluca/survis`).
- Panelist - National Science Foundation (NSF), 2012, 2013, 2013, 2014, 2015, 2015.
- Session Chair for major IEEE conferences (ICRA, IROS) since 2009.
- Chair for the "RasEnv: Robotics in Assistive Environments" at PETRA conference, 2011-14.
- Program Committee member for Robotics Science and System (RSS) conference, 2009, 2014.
- Local Arrangement Chair for the 3DPVT Symposium (3D Data Proc., Visual. and Transmission), Atlanta, GA, June 18-20, 2008.
- Reviewer of several journals:
    a. IEEE Transactions on Medical Imaging,
    b. IEEE Transactions of Biomedical Engineering,
    c. PLOS ONE
    d. Medical Imaging and Analysis,
    e. Computer Vision and Image Understanding,
    f. IEEE Transaction on Robotics,
    g. IEEE Transactions on Industrial Engineering,
    h. IEEE Transactions on Automation, Science and Engineering,
    i. IEEE Transactions on Automatic Control,
    j. International Journal of Robotic Research,
    k. Autonomous Robots,
    l. IEEE Transactions on Control System Technologies,
    m. Robotics and utonomous Systems,
    n. Image and Vision Computing.
- Reviewer of several conferences (representative list below):
    a. (MICCAI) International Conference on Medical Image Computing and Computer Assisted Intervention (2012-now)
    b. (ICRA) IEEE International Conference on Robotics and Automation (2006-now).
    c. (IROS) IEEE/RSJ International Conference on Intelligent Robots and Systems (2006-now)
    d. (ICARCV) 12th Int. Conf. Control, Automation, Robotics and Vision (2012)
    e. (RSS) Robotics Science and Systems, (2009-now)
    f. (CDC) Conference on Decision and Control, 2007.
- IEEE Member (S'04-M'06) and IEEE Robotics and Automation Society member.
- EMBS Member
- *I-RAS member* and previous secretary of the Italian Chapter of Robotics and Automation Society.
- *Co-Organizer* of the Ph.D. School *"Visual servoing and its applications to Robotics, Computer Vision and Augmented Reality"* held by Prof. Francois Chaumette, LAAS, France (co-sponsors: IEEE RAS Italian Chapter, University Siena), Siena, June 2006 (with Prof. D. Prattichizzo) .
- Member of the engineering department committee as representative of all the research associates at the Department of Engineering Information), SIENA, ITALY.
- Member of the directive committee for Ph.D. Students in Technological Areas (2002-2004), University of Siena, Italy.

Departmental Services

- Member of the CSE Visibility Committee, (Fall 2014-now), CSE, UTA.
- Member of the Ph.D. Admission Committee, (Fall 2010-Fall 2014), CSE, UTA.
- Member of the Student Awards and Scholarships Committee (Fall 2012-now), CSE, UTA.
- CSE Advisor for the Association of Computing Machinery (ACM), CSE, UTA.

  Involved ACM members in the Technology Education Academy (TEA) program.

  Instituted and organized the "CSE/ACM Technology Week" (Fall 2012).

  Organized and sponsored the "CSE/ACM Halloween Lab Tour" (Fall 2012) (more than 50 students).
- Member of the Adjunct and Visiting Appointments Committee (Fall 2010-2012), CSE, UTA.
- Member of graduate-student thesis committees:

  (Ph.D.) Gustavo Puerto, Oct. 2012, CSE (Chair: Dr. Gian-Luca Mariottini)

  (Ph.D.) Aaron Staranowicz, Oct. 2012, CSE (Chair: Dr. Gian-Luca Mariottini)

  (Ph.D.) Pat Jangyodsuk, Oct. 2013, CSE (Chair: Dr. Vassilis Athitsos)

  (Ph.D.) Pavlos Dioliotis, Oct. 2012, CSE (Chair: Dr. Vassilis Athitsos).

  (Ph.D.) Zhong Zhang, Oct. 2012, CSE (Chair: Dr. Vassilis Athitsos).

  (Ph.D.) Chris Conly, Oct. 2013, CSE (Chair: Dr. Vassilis Athitsos).

  (Ph.D.) Christopher McMurrough, Nov. 2012, CSE (Chair: Dr. Fillia Makedon)

  (Ph.D.) Vamsikrishna Gopikrishna, May. 2012, CSE (Chair: Dr. Manfred Huber)

  (Ph.D.) Mousumi Ahmed, May 2012, MAE (Chair: Kamesh Subbarau)

  (Ph.D.) Minh Nguyen, Mar. 2012, CSE (Chair: Dr. Jean Gao)

  (M.Sc.) Ankita Chainani, Master of Science, BME, Nov.2012 (Chair: George Alexandrakis)

Outreach Activities

- Organizer of the *"Educational Technology Academy"* to pilot at the Arlington Public Library, Arlington, Spring 2015.

  `Article on the Star-Telegram;  Article on the UTA News`
- Guest Speaker on *"Robotics and Humans"* at the Arlington Public Library, Youth Technology Center, Arlington, January, 2012.
- Guest Speaker on *"Robotics and its applications to medicine"* at the ACM Meeting of the University of Texas at Arlington, Sept.22nd, 2010.
- Creator and organizer of the *Robotics Education Program*, at the Youth Technology Center, Arlington Public Library (East Branch), Jan.2013.
- Guest speaker on *"Robots and Humans: Research and Applications at the ASTRA Robotics Lab"*, Engineering Student Council, UT Arlington, NH100, Oct. 2011.

Invited Talks

- G.L. Mariottini, (PLENARY TALK) "Augmented-Reality for Computer-Assisted Surgical Guidance", *Symposium on Augmented reality*, San Luis de Potosi, Mexico, March 2015.
- G.L. Mariottini, "Toward Long-term and Accurate Augmented-Reality Display for Minimally-Invasive Surgery", *The Johns Hopkins University*, April 2014.
- G.L. Mariottini, "Toward Long-term and Accurate Augmented-Reality Display for Minimally-Invasive Surgery", *Vanderbilt University, Dept. Mechanical Eng.,* March 2014.
- G.L. Mariottini, "Toward Long-term and Accurate Augmented-Reality Display for Minimally-Invasive Surgery", *Indiana University at Purdue, School of Informatics and Computing,* March, 2013.

- G.L. Mariottini, "Toward Long-term and Accurate Augmented-Reality Display for Minimally-Invasive Surgery", *University of Texas Southwestern, Dept. Urology, Dallas,* Sept. 2012.
- G.L. Mariottini,"Toward Long-term and Accurate Augmented-Reality Display for Minimally-Invasive Surgery", *University of Texas at Arlington, Biomedical Engineering Department*, Sept. 2012.
- G.L. Mariottini, "Multi-robot Localization and Control", Department of Computer Science, *CIMAT, Guanajuato, Mexico,* May 2011.
- G.L. Mariottini, "Image-based Robot Control: the Multiple View Geometry Approach", Department of Computer Science and Engineering, University of Texas at Arlington, Feb., 2010.
- G.L. Mariottini, "Image-based Robot Control: the Multiple View Geometry Approach", Department of Computer Science and Engineering, University of Minneapolis, Minnesota, Sept. 03, 2008.
- G.L. Mariottini, "A Human-Robot Interface for Interaction with Cognitive and Emotional Human Domains", Department of Mechanical and Aerospace Engineering, Princeton University , PA, Dec. 2007.
- G.L. Mariottini, "A Human-Robot Interface for Interaction with Cognitive and Emotional Human Domains", Dep. of Neuroscience, University of Pennsylvania, PA, Feb. 2007.
- G.L. Mariottini, "Epipole-based Visual Servoing for Nonholonomic Mobile Robots via Feedback Linearization". In *Summer School on Image and Robotics, INRIA Sophia-Antipolis*, June 2004
- G.L. Mariottini, "Panoramic Cameras: theory and application to robotics". In *Summer School on Image and Robotics, INRIA Sophia-Antipolis*, June 2004
- G.L. Mariottini, "Asservimento Visivo Epipolare di un Robot Anolonomo", Universitá degli Studi La Sapienza, Roma, 2 July 2003
- G.L. Mariottini, SIN (Simposio Italiano Neurologia) Riunione annuale Tosco-Umbra, Policlinico "Le Scotte", Siena (Italy) 19-20, December 2003.
- G.L. Mariottini, "Advanced STImuli Design for Eye Tracking (ASTIDET): easy applicability for ocular movement study in neurology", SIN03, Simposio Italiano di Neurologia, Rome, Italy, October 2003.
- G.L. Mariottini, CIRA National Ph.D. School, Bertinoro (FC), Luglio 2003 (in collaboration with Prof. Domenico Prattichizzo and Dr. Jacopo Piazzi).

Citation index of most cited articles

(>35 citations in Google Scholar, No.citations=932, h-index=14.0)

159 "Image-based Visual Servoing for Nonholonomic Mobile Robots using Epipolar Geometry",
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