



sorin mihai grigorescu

Personal information

Date of birth 22 March 1982
Place of birth Busteni, Romania
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Education

- 2006–2010 **PhD degree**, *Institute of Automation*, University of Bremen, Germany, *PhD*.
Thesis title: *Robust Machine Vision for Service Robotics*. Supervisor: Prof. Axel Graeser. The research objective is the synthesis of a robust vision system to be used in service robotics for reliable scene understanding aiming at precise visual guided object grasping. The key concept is closed-loop control introduced at image processing level for coping with external influences like variable illumination conditions and scene uncertainty.
- 2003–2006 **Diploma Engineer (head of 2006 promotion)**, *Faculty of Electrical Engineering and Computer Science*, Transilvania University of Brasov, Romania, *System Engineer*.
Diploma project completed at Institute of Automation, University of Bremen, with title: Feedback control for the robust color object recognition in system FRIEND II. Supervisors: Prof. Axel Graeser and Prof. Florin Moldoveanu. This thesis approaches the field of color object recognition in variable illumination conditions. The proposed method adapts the parameters of the used image processing chain in a closed-loop manner based on a quality measure obtained from different levels of image processing like image segmentation and feature extraction.

2000–2003 **Engineer (head of 2003 promotion)**, *Faculty of Electrical Engineering and Computer Science*, Transilvania University of Brasov, Romania, *Automation Engineer*.

Final project title: Development of a microcontroller based algorithmic state machine for use in process control. Supervisor: Prof. Florin Moldoveanu. In this thesis the synthesis of an algorithmic state machine on a Microchip PIC16F84 is treated from both the design and implementation perspectives. The implementation stage has been validated through the development of a traffic light controller.

Work experience

since June 2013 **Team Manager**, *Navigation Department*, Elektrobit Automotive, Romania.

since October 2013 **Associate Professor**, *Department of Automation*, Transilvania University of Brasov, Romania.

July 2010 - June 2013 **Postdoctoral researcher, Project leader**, *Department of Automation*, Transilvania University of Brasov, Romania.

Head of the ROVIS Lab *Robust Vision and Control Laboratory* (<http://rovis.unitbv.ro/>). The goal of the ROVIS Lab is to extend the state-of-the-art in applied machine vision, especially taking into account challenges coming from service robotics and real-time vision.

December 2011–April 2012 **Researcher**, *Intelligent Autonomous Systems Group*, Technical University Munich, Germany, (<http://ias.cs.tum.edu/>).

2009–2010 **Experienced researcher, Project leader**, *Institute of Automation*, University of Bremen, Germany.

Leader of the AMaRob (*Autonomous Manipulator control for rehabilitation Robots*) project (<http://www.amarob.de/>). The goal of this research project is to support people with multiple handicaps and elderly people in doing their activities of daily living with a rehabilitation robotic system (i.e. a wheelchair with mounted manipulator, vision system and computer based manipulator control). The designed care-providing robotic system, now in its third generation, is entitled FRIEND (*Functional Robot with dexterous arm and user-fRIENDly interface for Disabled people*) (<http://www.friend4you.eu/>).

2006–2009 **Researcher**, *Institute of Automation*, University of Bremen, Germany. Researcher within the AMaRob project.

September 2003–March 2006 **Technician**, *Department of Automation*, Transilvania University of Brasov. Part-time job. The task was to help in preparing a number scientific publications such as journal/conference papers and technical books.

Teaching experience

- 2010 Lecturer in Control Systems in Machine Vision.
- 2007–2009 Lecturer in C++ Basics and Application in Technical Systems.
- 2006–2009 Process automation: Petri nets laboratory.

Awards

- October 2013 *Automotive and Drive Analytics - Intelligent automotive data analysis and prediction modules*, Elektrobit Innovation Award 2013, Erlangen, Germany, October, 2013.
- November 2008 *Robust Object Classification and Recognition in Service Robotics (best poster award)*, Sorin Mihai Grigorescu and Sang-Wan Lee, 30th Colloquium of Automation, Salzhausen, Germany, November, 2008.
- June 2006 Excellence diploma from the Romanian Society of Automation and Industrial Informatics (SRAIT) for graduating head of class in the field of Automation and Industrial Informatics and for research activity.
- May 2006 Electrotechnical student scientific communication session, Transilvania University of Brasov: Pollution Guard – Air Pollution Monitoring and Warning System (first prize).
- 2006 IEEE Computer Society International Design Competition: Pollution Guard – A SCADA system for air pollution monitoring and warning (participation award).
- May 2005 Electrotechnical student scientific communication session, Transilvania University of Brasov: Synthesis of a neural command for controlling a 3-phase stepper motor using the DS80C420 microcontroller (first prize).

Other

Reviewer for different journals and conferences (eg. *IEEE Trans. on Systems Man and Cybernetics*, *Journal of Machine Vision and Applications*, *ROBOTICA*, *Int. Conf on Robotics and Automation (ICRA)*, *Int. Conf. on Intelligent Robots and Systems (IROS)*, *Int. Conf. HUMANOIDS*, etc.).

Organizer of the 2012 Special session on Robotics, Vision and Real-time Data Processing withing the OPTIM 2012 conference, Brasov, Romania.

Chairman of the *Rehabilitation Robotics* section from the 2009 Int. Conf. on Intelligent RObots and Systems IROS, Saint Louis, USA, 2009.

Co-Chairman of the *Perception and Sensing* section from the 18th Int. Federation of Automatic Control IFAC World Congress, Milano, Italy, 2011.

Research interests

- Computer vision Feedback structures in image processing, Object tracking, Robust object recognition, Stereo vision.
- Robotics Visual control of robot manipulators, Object grasping, Rehabilitation and service robotics.

Languages

- English Advanced
- German Advanced
- French Beginner
- Romanian Mother tongue

Interests

Member of the *Transylvanian Tourism Association SKV (Siebenbuergischer Karpatenverein)*.

Science and technology, Mountaineering, Classic rock.