sorin mihai grigorescu

Personal information

Date of birth	22 March 1982
Place of birth	Busteni, Romania
Nationality	Romanian
Mobile phone	+40 770 814 497
Email	sorin.mihai.grigorescu@gmail.com
Web	http://rovislab.com/sorin_grigorescu.html

Work experience

since Ontober 2020 — **Professor, Head of RovisLab, Coordinator of the Robotics program**, *Faculty of Electrical Engineering and Computer Science*, Transilvania University of Brasov, Romania.

October 2013 - September 2020 — **Associate Professor, Head of RovisLab, Coordinator of the Robotics program**, *Department of Automation*, Transilvania University of Brasov, Romania.

since June 2021 — **Country Technology Lead**, Elektrobit Automotive.

January 2018 - May 2021 — **Head of Artificial Intelligence**, *Artificial Intelligence Department*, Elektrobit Automotive.

January 2014 - December 2017 — **Team Manager**, *Driver Assistance and Navigation Departments*, Elektrobit Automotive, Romania.

June 2013 - December 2013 **Senior Software Developer**, *Driver Assistance Department*, Elektrobit Automotive, Romania.

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.

Education

2006–2010 **PhD degree (Magna Cum Laude)**, *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 (top of the 2006 promotion)**, *Faculty of Electrical Engineering and Computer Science*, Transilvania University of Brasov, Romania, *System Engineer*.
Diploma project compleated 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 (top of the 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.

Teaching experience

Artificial Intelligence

Machine Learning

Computer Vision

C++ Basics and Application in Technical Systems

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

Founder of the ROVIS (Robust Vision and Control Laboratory) research group: `https://rovislab.com/`.

Reviewer for different journals and conferences in the field of robotics (eg. *IEEE Trans. on Pattern Recognition and Machine Intelligence*, *IEEE Trans. on Neural Networks and Learning Systems*, *IEEE Trans. on Mechatronics 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 on the 2009 Int. Conf. on Intelligent RObots and Systems IROS, Saint Louis, USA, 2009.

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

Chairman of the *Applied Mathematics* section on Congress on Information Technology, Computational and Experimental Physics CITCEP 2015, Cracow, Poland, 2015.

Invited researcher: Korea Advance Institute of Science and Technology (KAIST), Daejeon, Korea, 2008 and 2009.

Invited researcher: Technical University Munich TUM, Munich, Germany, 2011-2012.

Invited researcher: JAUME I University, Castellon de la Plana, Spain, 2007 and 2008.

Invited researcher: National University of Electro-Communications, Japan, 2009.

Invited researcher: Szechenyi Istvan University, Gyor, Hungary, 2011 and 2012.

H-index (according to Google scholar): 11 (470 citations)

Research interests

Machine Learning	Deep learning, Learning control, One-shot learning.
Computer vision	Autonomous vision, Environment understanding, Feedback structures in machine vision, Object tracking, Robust object recognition, Stereo vision, 3D Reconstruction.
Robotics	Autonomous driving, Visual control of robots, Rehabilitation and service robotics.

Computer skills

Programming concepts	Model Driven Development, Universal Modeling Language, System Modeling Language, Distributed systems.
Programming languages	C/C++, Python, Pascal, Delphi, Java, Assembler (x86 compatible instruction set and more), SQL, PHP.
Programming environments	Rhapsody, Eclipse, Visual Studio, C Builder, Lab Windows CVI, Borland Delphi, Microchip MPLAB, MATLAB / SIMULINK.
Databases	MS SQL Server, ActiveX Data Objects (ADO), MySQL, PostgresSQL.

Languages

English	Advanced
German	Advanced

French	Beginner-Intermediate
Romanian	Mother tongue

Interests

Member of the *Romanian Society of Automation and Industrial Informatics SRAIT* (since 2009).

Science and technology, Hiking, Jogging, Biking.