

PERSONAL INFORMATION

Radu Gabriel DĂNESCU



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Sex M | Date of birth 07/08/1978 | Nationality Romanian

WORK EXPERIENCE

01.10.2013-present day

Associate Professor

Technical University of Cluj-Napoca

Lecture and laboratory works: Image Processing, Design with Microprocessors

Research: modeling and tracking dynamic 3D environments, stereovision for space surveillance.

01.10.2009 – 01.10.2013

Senior Lecturer (Assistant Professor)

Technical University of Cluj-Napoca, www.utcluj.ro

- Lecture: Image Processing, Design with Microprocessors
- Laboratory and project works: Image Processing, Design with Microprocessors, Shape Recognition Systems, Computer Vision.
- Research: Stereovision, Object Tracking, Lane Tracking, Recognition of Painted Road Objects, Image processing for space observation.

01.10.2004-01.10.2009

Lecturer

Technical University of Cluj-Napoca, www.utcluj.ro

- Laboratory and project works: Image Processing, Design with Microprocessors, Shape Recognition Systems, Computer Architecture
- Research: Stereovision, Object tracking, Lane delimiting features extraction.

01.10.2002-01.10.2004

Teaching Assistant

Technical University of Cluj-Napoca, www.utcluj.ro

- Laboratory and project works: Image Processing, Design with Microprocessors, Shape Recognition Systems, Computer Architecture
- Research: Stereovision, Object tracking, Lane detection.

01.08.2001-01.10.2002

Trainee research assistant

Technical University of Cluj-Napoca, www.utcluj.ro

- Research: Stereovision, Object tracking

Business sector Technical higher education

EDUCATION AND TRAINING

01.11.2002-12.12.2009

PhD in Computer Science

Technical University of Cluj-Napoca

EQF Level 8

- Research subjects: probability-based tracking of relevant objects in driving assistance applications, using measurement cues extracted by image processing techniques.

01.10.2002-30.06.2003

Advanced Studies

EQF Level 7

Technical University of Cluj-Napoca

Specific acquired skills:

Advanced computer networks, intelligent systems, parallel logic programming systems, advanced shape recognition systems, advanced distributed systems, interactive systems.

01.10.1997-30.06.2002

Diploma engineer

EQF Level 6-7

Technical University of Cluj-Napoca

General skills:

Scientific foundations of engineering: advanced mathematics, physics, mechanics, theory of electrical circuits and fields, binary arithmetic.

Specific skills:

Computer programming, Software engineering, Algorithm design, Computer network design, Database design, Hardware design.

PERSONAL SKILLS

Mother tongue Romanian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C1	C1	C1
Engineer license diploma, attesting that the study language for all curriculum was English					
French	B1	B1	B1	B1	A2
Not available.					

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Communication skills

Significant communication skills related to technology and education, acquired by

- 10 years of teaching experience
- 4 years experience in lecturing
- 11 years of research experience, including participation in multiple conferences, workshops for result presentation, and negotiations with international partners.

- Organizational / managerial skills**
- Project management skills, acquired by
 - Involvement in project management for 10 years
 - Management of two research projects
 - Writing multiple project proposals, having a high rate of acceptance.
- Job-related skills**
- Design of image acquisition systems, understanding the operation of cameras and frame grabbers, multiple cameras synchronization, camera calibration, electrical and mechanical setup.
 - Mathematical modeling of real-life problems: modeling of relevant objects and curves for driving assistance applications, in terms of geometry and time evolution. Modeling the measurement and its uncertainty, filtering of measurement data.
 - Digital electronics: design and implementation of microcontroller-based applications, design and implementation of dedicated hardware architectures in VHDL, interfacing multiple devices.
 - Vehicular technology: use of the CAN bus, interpretation of the vehicle messages and the dynamic parameters of the vehicle, odometry.
- Computer skills**
- Advanced skills of:
- Computer programming (C/C++, Pascal, Basic, Assembly, Java, Javascript, MatLab)
 - Source code optimization for real-time performance
 - Multi-thread application.
 - Design and implementation of complex algorithms for image processing, shape recognition, and probability-based tracking.
 - Design and implementation of software interfaces for data and image acquisition.
- Other skills**
- Research activity and results dissemination through multiple mediums.
- Driving license**
- B

ADDITIONAL INFORMATION

Publications **Most relevant 5 publications (ISI)**

1. **R. Danescu**, S. Nedevschi, "Probabilistic Lane Tracking in Difficult Road Scenarios Using Stereovision", IEEE Transactions on Intelligent Transportation Systems, vol. 10, No. 2, June 2009, pp. 272-282.
2. **R. Danescu**, F. Oniga, S. Nedevschi, "Modeling and Tracking the Driving Environment with a Particle Based Occupancy Grid", IEEE Transactions on Intelligent Transportation Systems, vol. 12, No. 4, December 2011, pp. 1331-1342.
3. **R. Danescu**, F. Oniga, V. Turcu, O. Cristea, "Long Baseline Stereovision for Automatic Detection and Ranging of Moving Objects in the Night Sky", Sensors, vol. 12, No. 10, October 2012, pp. 12940-12963.
4. **R. Danescu**, A. Ciurte, V. Turcu, "A Low Cost Automatic Detection and Ranging System for Space Surveillance in the Medium Earth Orbit Region and Beyond", Sensors, vol. 14, No. 2, February 2014, pp. 2703-2731.
5. **R. Danescu**, S. Nedevschi, "A Particle-Based Solution for Modeling and Tracking Dynamic Digital Elevation Maps", IEEE Transactions on Intelligent Transportation Systems, in print, DOI 10.1109/TITS.2013.2291447 .

Projects **Managed projects**

1. „**Road and Lane Detection in Urban Traffic Scenarios**”, project of type CNCSIS-TD, code 339, 2006-2007, **total value 4500 euro**, financed by the Romanian Ministry of Education and Research. Project objectives: development of original methods for road delimiter marking detection, and for lane model fitting to the measurement data using probabilistic filters.

2. "**Automatic medium and high orbit observation system based on stereovision (AMHEOS)**", project of type partnership, code PN-II-PT-PCCA-2011-3.2-0651, 2012-2016, **total value 650000 euro**, financed by the Romanian Ministry of Education and Research.

Project objectives: automatic detection of objects orbiting the Earth at a distance of more than 20000 km, using observation systems synchronized at large distance. Development of robust, automated systems, which can be used for long time observations.

Achievements: the project is just started, but we already published two ISI papers.

Projects I was involved in (selection)

SCABOR, DESBOR, etc, industrial projects financed by Volkswagen AG, during 2001 and 2007. During this time, I was involved in developing real-time stereovision-based software for driving environment perception.

INTERSAFE-2, FP7 project: part of this project, I developed a system for automatic classification of painted road objects.

LEOSCOP – partnership project: in this project I established the foundations of automatic satellite detection, using low cost systems. The work on this project continues in AMHEOS.

Membership

IEEE Member

Member of the IEEE Intelligent Transportation Systems Society

Scientific impact and recognition

-643 citations, **h=13**, according to Google Scholar Citations

-287 citations, **h=9**, according to Scopus

-190 citations, **h=6**, according to ISI Web of Knowledge

Reviewer of ISI Journals

- IEEE Transactions on Intelligent Transportation Systems (IEEE)

- IEEE Transactions on Vehicular Technology (IEEE)

- Remote Sensing (MDPI)

- Measurement (Elsevier)

Cluj-Napoca, 19.05.2014

R. Danescu