

INFORMAȚII PERSONALE

Ciprian Pocol



EXPERIENȚA PROFESIONALĂ

Septembrie 2015 – prezent

Asistent universitar

Departamentul de calculatoare, Universitatea Tehnica din Cluj-Napoca

- Activitate didactica la materiile: Computer Programming, Data Structures and Algorithms

Martie 2005 – Octombrie 2015

Preparator universitar

Departamentul de calculatoare, Universitatea Tehnica din Cluj-Napoca

- Activitate didactica la materiile: Computer Programming, Programare orientata pe obiecte

Ianuarie 2002 – Martie 2009

Asistent cercetare

Departamentul de calculatoare, Universitatea Tehnica din Cluj-Napoca

- Dezvoltarea de sisteme bazate pe stereoviziune pentru sisteme de conducere autonoma a vehiculelor

EDUCAȚIE ȘI FORMARE

Noiembrie 2002 – Septembrie
2015

Doctorat

Universitatea Tehnica din Cluj-Napoca, Cluj-Napoca, Romania

- Doctor in Stiinta Calculatoarelor
- „Tehnici bazate pe stereo viziune pentru detectia obstacolelor in cadrul sistemelor de asistare a conducerii auto”
- Nivel EQF: 8

Octombrie 2002 – Iulie 2003

Masterat

Universitatea Tehnica din Cluj-Napoca, Cluj-Napoca, Romania

- Diploma de studii aprofundate
- Nivel EQF: 7

Octombrie 1997 – Iulie 2002

Licenta

Universitatea Tehnica din Cluj-Napoca, Cluj-Napoca, Romania

- Diploma de Inginer in Stiinta Sistemelor si a Calculatoarelor
- Nivel EQF: 6

- Training-uri**
- Intensive Course on Automotive Electronics, by dr. Georg Pelz from Infineon Technologies, held at Technical University Cluj-Napoca, Romania, April 12, 2013
 - Cell Broadband Engine Programming Course, organized by IBM at Technical University of Cluj-Napoca, Romania, July 2007
 - Multicore Programming, organized by INTEL at University Politehnica Bucharest, Romania, March 2007

COMPETENTE PERSONALE

Limba maternă română

Alte limbi străine cunoscute

	INTELEGERE		VORBIRE		SCRIERE
	Ascultare	Citire	Participare la conversație	Discurs oral	
Engleză	B2	B2	B2	B1	B2
Certificat de competenta lingvistica Nr. B5592 din 12.05.2011, Universitatea Tehnica din Cluj-Napoca					

Competențe de comunicare ▪ bune competențe de comunicare dobândite în activitățile didactice și de cercetare.

Competențe organizaționale/manageriale

- Managementul studenților în cadrul activităților didactice
- Activități de secretar de comisie în cadrul sesiunilor de susținere a licențelor
- Leader în cadrul unor proiecte de cercetare

Competențe dobândite la locul de muncă

- Invățare continuă
- Derulare de activități în mod independent
- Înțelegerea sistemelor atât la nivel de implementare cât și la nivel conceptual

Competențe informatice

- Limbaje de programare: C/C++, C#, Python, PHP, ASM, Java, Pascal, Basic
- Sisteme de operare: Windows, Linux
- IDE-uri: Microsoft Visual Studio, Code::Blocks, DEV-C++, PyCharm
- API-uri, framework-uri: OpenGL, OpenCV, MFC, Qt
- Versionare: CVS, SVN, TFS, Git, BitBucket, SourceTree
- Managementul activităților: Jira, GitHub

Alte competențe

- Self-driving Vehicles, Computer Vision, Computer Graphics, Virtual Reality, Augmented Reality, Game Development, Automotive Electronics, Graphical User Interface (GUI), Data Structures, Algorithms, Code Optimization, Parallel Processing, Software Architecture, Sensors, Control Area Network (CAN), Vehicle Diagnostics, Hardware Knowledge, Math, Physics

Permis de conducere

- Categoria B

INFORMATII SUPLIMENTARE

Publicații

- În *proceeding-uri* ale unor conferințe internaționale ISI (9):

I. Giosan, S. Nedevschi, C. Pocol, "[Shape improvement of traffic pedestrian hypotheses by means of stereo-vision and superpixels](#)," in *Proc. IEEE International Conference on Intelligent Computer Communication and Processing (ICCP'15)*, Cluj-Napoca, Romania, 3-5 September 2015, pp. 217-222, ISBN 978-1-4673-8200-7

C. Pocol, S. Nedevschi, "Obstacle Detection for Mobile Robots, Using Dense Stereo Reconstruction," in *Proc. IEEE International Conference on Intelligent Computer Communication and Processing (ICCP'07)*, Cluj-Napoca, Romania, 6-8 September 2007, pp. 127-132, ISBN 1-4244-1491-1, DOI 10.1109/ICCP.2007.435215

S. Nedevschi, R. Danescu, T. Marita, F. Oniga, C. Pocol, S. Sobol, C. Tomiuc, C. Vancea, M. M. Meinecke, T. Graf, T. B. To, M. A. Obojski, "[A Sensor for Urban Driving Assistance Systems Based on Dense Stereovision](#)," in *Proc. Intelligent Vehicles (IV'07)*, Istanbul, Turkey, 13-15 June 2007, pp. 278-286, ISBN 1-4244-1068-1

S. Nedevschi, S. Bota, T. Marita, F. Oniga, C. Pocol, "[Real-Time 3D Environment Reconstruction Using High Precision Trinocular Stereovision](#)," in *Proc. IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR'06)*, Volume 2, Cluj-Napoca, Romania, 25-28 May 2006, pp. 333 - 338, ISBN 1-4244-0361-8

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, S. Sobol, T. Graf, R. Schmidt, "[Driving Environment Perception Using Stereovision](#)," in *Proc. IEEE Intelligent Vehicles Symposium (IV'05)*, Las Vegas, USA, June 2005, pp. 331-336, ISBN 0-7803-8961-1/05

S. Nedevschi, R. Schmidt, T. Graf, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "[3D Lane Detection System Based on Stereovision](#)," in *Proc. IEEE Intelligent Transportation Systems Conference (ITSC'04)*, Washington, USA, 3-6 October 2004, pp. 161-166, 0-7803-8501-2

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, R. Schmidt, T. Graf, "[High Accuracy Stereo Vision System for Far Distance Obstacle Detection](#)," in *Proc. IEEE Intelligent Vehicles Symposium (IV'04)*, Parma, Italy, 14-17 June 2004, pp. 292-297, ISBN 0-7803-8311-7

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "Extraction of Dynamic Traffic Description Using Multiple Stereovision Equipped Vehicles," in *Proc. Computing, Communications and Control Technologies (CCCT'04)*, Austin, Texas, USA, 15-17 August 2004, pp. 410-145, ISBN 980-6560-17-5

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "[Real-Time Extraction of 3D Dynamic Environment Description Using Multiple Stereovision Sensors](#)," in *Proc. International Conference on Computers, Communication and Control (CCCT'03)*, Orlando, Florida USA, 29 July - 1 August 2003, pp. 520-524, ISBN 980-6560-05-1

▪ **In proceeding-uri ale altor conferințe internaționale (12):**

C. Pocol, S. Nedevschi, Marc-M. Meinecke, "[Obstacle Detection Based on Dense Stereovision for Urban ACC Systems](#)," in *Proc. Workshop on Intelligent Transportation (WIT'08)*, Hamburg, Germany, 18-19 March 2008

S. Nedevschi, R. Danescu, C. Pocol, Marc-M. Meinecke, "[Stereo Image Processing for ADAS and Pre-crash Systems](#)," in *Proc. Workshop on Intelligent Transportation (WIT'08)*, Hamburg, Germany, 18-19 March 2008

S. Nedevschi, T. Marita, R. Danescu, F. Oniga, C. Pocol, S. Sobol, C. Tomiuc, C. Vancea, S. Bota, R. Borca, M. Negru, S. Lazar, A. Vatavu, "Stereovision Sensor for Driving Assistance," in *Proc. IEEE International Conference on Intelligent Computer Communication and Processing (ICCP'06)*, Volume 1, Cluj-Napoca, Romania, 1-2 September 2006, pp. 105-111, ISBN 978-973-662-234-2

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "Moving Cameras Rotation Estimation Using Horizon Line Features' Motion Field," in *Proc. International Carpathian Control Conference (ICCC'05)*, Volume 2, Lilafured Miskolc, Hungary, 24-26 May 2005, pp. 449-454, ISBN 963-661-645-0

S. Nedevschi, T. Marita, R. Danescu, D. Frentiu, F. Oniga, C. Pocol, "Camera Calibration method for high-accuracy stereovision," in *Proc. Joint-Hungarian-Austrian Conference on Image Processing and Pattern Recognition*, Veszprem, Hungary, 11-13 May 2005, pp. 303-310, ISBN 3-85403-192-0

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, Thorsten Graf, Rolf Schmidt, "[High Accuracy Stereovision Approach for Obstacle Detection on Non-Planar Roads](#)," in *Proc. IEEE Intelligent Engineering Systems (INES'04)*, Cluj Napoca, Romania, Sept. 2004, pp. 211-216, ISBN 973-662-120-0

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, R. Schmidt, T. Graf, "[Stereovision Approach For Obstacle Detection On Non-Planar Roads](#)," in *Proc. International Conference on Informatics in Control, Automation and Robotics (ICINCO'04)*, Setubal, Portugal, 25-28 August 2004, pp. 11-18, ISBN 972-8865-12-0

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "[Spatial Grouping of 3D Points from Multiple Stereovision Sensors](#)," in *Proc. International Conference of Networking, Sensing and Control (ICNSC'04)*, Taipei, Taiwan, 21-23 March 2004, pp. 874-879, ISBN 0-7803-8194-7

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "[Dynamic traffic description using stereovision equipped vehicles and ad-hoc wireless networking](#)," in *Proc. IEEE-TTTC International Conference on Automation, Quality Testing and Robotics (AQTR'04)*, Volume 2, Cluj Napoca, Romania, May 2004, pp. 153-158, ISBN 973-713-047-2

S. Nedevschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, "[3D Environment Reconstruction Using Multiple Moving Stereovision Sensors](#)," in *Proc. microCAD International Scientific Conference*, Miskolc, Hungary, March 2004, pp. 93-98, ISBN 1-85338-855-6

S. Nedevschi, T. Marita, R. Danescu, F. Oniga, D. Frentiu, C. Pocol, "[Camera Calibration Error Analysis in Stereo Measurements](#)," in *Proc. microCAD International Scientific Conference*, Miskolc, Hungary, 6-7 March 2003, pp. 51-57

S. Nedeveschi, T. Marita, M. Vaida, R. Danescu, D. Frentiu, F. Oniga, C. Pocol, "[Camera Calibration Method for Stereo Measurements](#)," in *Proc. IEEE-TTTC International Conference on Automation, Quality and Testing, Robotics (AQTR'02)*, Cluj-Napoca, Romania, May 2002, pp. 111-118, ISBN 973-9357-11-1

▪ **In reviste naționale cotate CNCIS, categorie B (3):**

C. Pocol, S. Nedeveschi, I. Giosan, "Obstacle Detection Based on Single Frame Stereo Vision," *J. Automation, Computers and Applied Mathematics (ACAM)*, 2013, pp. 246-254, Ed. Mediamira, Cluj-Napoca, Romania, ISSN 1221-437X.

S. Nedeveschi, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, Thorsten Graf, Rolf Schmidt, "High Accuracy Stereovision Approach for Obstacle Detection on Non-Planar Roads," *J. Automation, Computers and Applied Mathematics (ACAM)*, vol.14, no. 2, pp. 173-178, 2005, Ed. Mediamira, Cluj-Napoca, Romania, ISSN 1221-437X

S. Nedeveschi, T. Marita, M. Vaida, R. Danescu, D. Frentiu, F. Oniga, C. Pocol, "Camera Calibration Method for Stereo Measurements - Extended Version," *J. Control Engineering and Applied Informatics*, vol. 4, no. 2, pp. 21-28, June 2002, Bucharest, Romania, ISSN 1454-8658

▪ **Capitole de carte (2):**

S. Nedeveschi, R. Danescu, T. Marita, F. Oniga, C. Pocol, S. Bota, M.-M. Meinecke, M. A. Obojski, "Stereovision-Based Sensor for Intersection Assistance", chapter in "[Advanced Microsystems for Automotive Applications 2009: Smart Systems for Safety, Sustainability and Comfort](#)", editors G. Meyer, J. Valldorf, W. Gessner, published by Springer, pp.129-164, ISBN 978-3-642-00744-6

S. Nedeveschi, R. Danescu, T. Marita, F. Oniga, C. Pocol, S. Bota and C. Vancea, "A Sensor for Urban Driving Assistance Systems Based on Dense Stereovision", chapter in "[Stereo Vision](#)" editor A. Bhatti, published by InTech Education and Publishing, Vienna, 2008, pp. 235-272, ISBN 978-953-7619-22-0

Scientometrie

- Web of Science: 226 citari, h index = 6
- Scopus: 206 citari, h index = 6
- Google Scholar: 784 citari, h index = 10

Proiecte de cercetare

- Cooperative Intersection Safety (INTERSAFE-2), Beneficiary: The European Commission, (2008-2011)
- Stereo System Modular Design (MODULAR), Beneficiary: Volkswagen AG, Germany, (2008-2009)
- Dense STEREO Based Object Tracking and CLASSification for Pre-Crash applications (STEREOCLASS), Beneficiary: Volkswagen AG, Germany, (2008)
- Dense STEREO Based Object Tracking and PEDESTrian Recognition for Pre-Crash Applications (STEREOPED), Beneficiary: Volkswagen AG, Germany, (2007-2008)
- STEREO SENSor for City Automatic Cruise Control (STEREOSENS), Beneficiary: Volkswagen AG, Germany, (2007)
- DENSE Stereo Based Object Detection, Tracking and Pedestrian Classification in Traffic Environments (DESPED), Beneficiary: Volkswagen AG, Germany, (2006 - 2007)
- Dense Stereo Based Object Recognition System for Automatic Cruise Control in Urban Traffic Environments (DESBOR), Beneficiary: Volkswagen AG, Germany, (2005 - 2006)
- Stereo Camera Based Object Recognition System for Vehicle Application - 3 Extension (SCABOR3Ex), Beneficiary: Volkswagen AG, Germany, (2004)
- Stereo Camera Based Object Recognition System for Vehicle Application - 3 (SCABOR3), Beneficiary: Volkswagen AG, Germany, (2003 - 2004)
- Stereo Camera Based Object Recognition System for Vehicle Application - 2 (SCABOR2), Beneficiary: Volkswagen AG, Germany, (2002 - 2003)
- Stereo Camera Based Object Recognition System for Vehicle Application (SCABOR), Beneficiary: Volkswagen AG, Germany, (2001 - 2002)

Asistare la conferințe, prezentari, workshop-uri

- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2021
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2020
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2019
- Techsylvania, Cluj-Napoca, Romania, May 2018
- DevTalks, Cluj-Napoca, Romania, April 2018
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2017
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2016
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2015
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2015
- KEPT: Knowledge Engineering: Principles and Techniques, Babes-Bolyai University, July 2, 2015
- In-vehicle security, bridging between academic research and industry requirements, held by prof.dr.eng. Bogdan Groza from Politehnica University Timisoara, Romania, April 21, 2015
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2013
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2012
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2010
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2009
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2008
- International Workshop on Intelligent Transportation WIT 2008, Hamburg, Germany, March 2008
- IEEE International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2007
- International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2006
- International Conference on Intelligent Computer Communication and Processing ICCP, Cluj-Napoca, Romania, September 2005
- International Conference on Automation, Quality and Testing, Robotics AQTR, Cluj-Napoca, Romania, May 2004
- International Conference on Automation, Quality and Testing, Robotics AQTR, Cluj-Napoca, Romania, May 2003

Experienta internationala

- Krüss GmbH (Optical Measuring Tools), Hamburg, Germany (1 week), 2015
- Softing AG (Automotive Electronics Department), München, Germany (2 weeks), 2010
- Volkswagen AG - Research Centre, Wolfsburg, Germany (4 weeks, part of SCABOR3E project), 2004
- Volkswagen AG - Research Centre, Wolfsburg, Germany (11 weeks, part of SCABOR3 project), 2003
- Volkswagen AG - Research Centre, Wolfsburg, Germany (6 weeks, part of SCABOR2 project), 2003
- Volkswagen AG - Research Centre, Wolfsburg, Germany (4 weeks, part of SCABOR1 project), 2002

Recenzor

- Conference on Intelligent Transportation Systems
- Transactions on Intelligent Transportation Systems
- Intelligent Vehicles Symposium
- International Conference on Intelligent Computer Communication and Processing
- Sensors

Alte realizari notabile

- implementarea unui [numarator de genoflexiuni](#), proiect concretizat de Primaria Cluj-Napoca si firma Life is Hard - Work Soft
- A world first: [Infinity Mirror by 3D Computer Graphics](#)
- [Watch what happens when you don't stop recursion](#)
- [Basic 3D Maze rendering engine](#), written 100% in assembly language

