Curriculum Vitae
Sergiu Nedevschi, PhD E. E.
Professor of Computer Science
Computer Science Department
Technical University of Cluj-Napoca
Romania

Full Name: Sergiu S. Nedevschi
Nationality: Romanian
Job Title: Professor with Computer Science Department, Vice-Rector of [Technical University of Cluj-Napoca](#) (TUCN) in charge with Scientific Research and ICT, manager of the Image Processing and Pattern Recognition Research Center.

E-mail Address/ Web Page: _____ / http://cv.utcluj.ro

Work Address: Technical University of Cluj-Napoca, 28 Memorandumului Street, 400114, Cluj-Napoca, Romania

Academic Qualifications:
1975: Graduate of Technical University of Cluj-Napoca, Msc. in Electrical Engineering;
1993: PhD in Electrical Engineering at Technical University of Cluj-Napoca, Romania (thesis title "Model Based Object Recognition").

Employment:
1975-1983: Senior Research Fellow, Research Institute for Computer Technologies, Cluj-Napoca branch, (I.T.C.Cluj filiala Cluj-Napoca);
1983-1991: Assistant Professor, Computer Science Department, TUCN;
1991-1994: Senior Assistant Professor, Computer Science Department, TUCN;
1994-1998: Associate Professor, Computer Science Department, TUCN;
1998-:   Professor, Computer Science Department, TUCN;
2000-2004: Head of Computer Science Department, TUCN;
2004-2012: Dean of Faculty of Automation and Computer Science, TUCN;
2012-2020: Vice Rector of TUCN in charge with Scientific Research and ICT

Teaching:
I am currently teaching for English and Romanian classes the following courses:
- Image Processing (3th year)
- Pattern Recognition (4th year)
- Artificial Vision (master)
- Artificial Vision for Autonomous Driving (master)

Research areas:
- Image Processing and Pattern Recognition
- Stereovision Based Sensorial Perception
- Environment Perception, Understanding and Representation
- Intelligent Vehicles, Driving Assistance Systems, Autonomous Mobile Systems
- Medical Image Processing

Research Activity:

I was involved in 80 research projects, being the coordinator, local coordinator or manager of 62 of them. I have coordinated or managed 29 international projects from which 6 FP7, 1 Horizon 2020, 19 with companies and 3 bilateral projects.

The research activity carried out in the Image Processing and Pattern Recognition Research Lab established in 1998 and upgraded to Research Center in 2010.

Selected Projects:
1. "Perceptie Vizuala Semantica si Control Integrat pentru Sisteme Autonome - SEPCA", PN-III-P4-PCCF, 293/ 21.08.2018 - S. Nedevschi**,** local coordinator. (2018-2022)
2. "Perceptia multispectrala a mediului prin fuziunea datelor senzoriale 2D si 3D din spectrul vizibil si infra-rosu – MULTISPECT", PN-III-P4-ID-PCE-2016-0727, - S. Nedevschi project manager. (2017-2020)
3. "Automated Urban Parking and Driving – **UP-Drive**", Horizon 2020, partners VW, ETH Zurich, IBM Zurich, University of Praga, - S. Nedevschi**,** local coordinator. (2016-2019)
4. "Reconfigurable ROS-based Resilient Reasoning Robotic Cooperating Systems - R5-COP", FP7 ARTEMIS, - S. Nedevschi**,** local coordinator. (2014-2017)
5. "Image processing based on stereo and Mono cameras for Driver Assistance Systems", research project funded by Robert Bosch, Germany, - S. Nedevschi, coordinator (2013-2016)
6. "**PAN-Robots** - Plug And Navigate ROBOTS for smart factories", FP7, partners SICK Germany, VTT Finland, University of Modena, Electric 80, - S. Nedevschi**,** local coordinator. (2012 – 2015),
7. "Co-operative Mobility Services of the Future – **CoMoSeF**", Celtic Plus project, - S. Nedevschi**,** local coordinator. (2012-2015)
8. "Cooperative Advanced Driving Assistance System Based on Smart Mobile Platforms and Road Side Units – **SmartCoDrive**", Romanian Ministry of Education and Research, code PN II PCCA 2011 3.2-0742 from 03.07.2012, - S. Nedevschi**,** coordinator. (2012-2016)
9. "Multi-scale and multi-modal perception of the 3D dynamic environments by fusion of the dens stereo, dens optical flow and visual odometry data - **MULTISENS**", Romanian Ministry of Education and Research, code PN II IDEI 2011 - S. Nedevschi**,** project manager. (2012-2016)
10. "**DRIVE C2X**" - Accelerate cooperative mobility, FP7, - S. Nedevschi, local coordinator. (2011-2013).
11. "**INSEMTIVE**S - Incentives for Semantics, FP7, S. Nedevschi - local coordinator. (2010-2012)
12. "Large Scale Semantic Computing Semantic Web technologies distributed reasoning probabilistic reasoning web-scale inference information retrieval – **LarkC**", FP7, (2010-2011), S. Nedevschi, local coordinator. (2010-2011)
13. "Perceptia senzoriala, modelarea si reprezentarea modelului lumii pentru sisteme de asistare a conducerii - **PERSENS**", Romanian Ministry of Education and Research, code PN-II-IDEI exploratory research, - S. Nedevschi**,** project manager. (2009-2011),
14. "Cooperative Intersection Safety – **INTERSAFE 2**", FP7, partners IBEO, VW, BMW, Volvo, INRIA, UTC-N, - S. Nedevschi, local coordinator. (2008-2011)

Publications:

Books:	20
Chapters in Books:	8
Papers:	418
In proceedings of international conferences	290
In journals	99
In ISI journals	38

Selected publications:
1. V. Miclea, S. Nedevschi, Real-Time Semantic Segmentation-Based Stereo Reconstruction, *IEEE Transactions on Intelligent Transportation Systems*), 21(4),8751135, pp. 1514-1524, DOI: 10.1109/TITS.2019.2913883

2. A. Petrovai, S. Nedevschi, "Multi-Task Network for Panoptic Segmentation in Automated Driving", *Proceeding of 2019 IEEE Intelligent Transportation Systems Conference (ITSC)*, Auckland, New Zeeland, 26-30 October,2019.
3. S.E.C. Deac, I. Giosan, S. Nedevschi, "Curb Detection in Urban Traffic Scenarios Using LiDARs Point Cloud and Semantically Segmented Color Images", *Proceeding of 2019 IEEE Intelligent Transportation Systems Conference (ITSC)*, Auckland, New Zeeland, 26-30 October,2019.
4. A. Petrovai, S. Nedevschi, "Efficient instance and semantic segmentation for automated driving", *Proceeding of 2019 IEEE Intelligent Vehicles Symposium (IV 2019,* Paris; France; 9-12 June, 2019, pp. 2575-2581.
5. AD Costea, A. Petrovai, S. Nedevschi, "Fusion Scheme for Semantic and Instance-Level Segmentation", *Proceedings of 2018 IEEE Intelligent Transportation Systems Conference (ITSC)*, Maui, Hawaii, USA, November 4-7, 2018
6. V. Miclea, S. Nedevschi, " Real-Time Stereo Reconstruction Failure Detection and Correction Using Deep Learning", Maui, Hawaii, USA, November 4-7, 2018
7. V. Miclea, S. Nedevschi, „Real-Time Semantic Segmentation-Based Depth Upsampling Using Deep Learning", *Proceedings of 2018 IEEE Intelligent Vehicles Symposium (IV)*, Changshu, China, June 26-30, 2018
8. Lorenzo Sabattini, Mika AikioS,…,Sergiu Nedevschi, Cristian Secchi, and Kay Fuerstenberg, "The PAN-Robots Project: Advanced Automated Guided Vehicle Systems for Industrial Logistics", *IEEE ROBOTICS & AUTOMATION MAGAZINE*,   pp. 55-64, MARCH 2018,
9. M. Drulea, A. Vatavu, Sz. Mandici, S. Nedevschi, "An Omnidirectional Stereo System for Logistic Plants. Part 1: Calibration And Multi-Channel Rectification", *Proceedings of Romanian Academy*, series A, Volume: 18 Issue: 1 pp. 89-97, 2017.
10. M. Drulea, A. Vatavu, Sz. Mandici, S. Nedevschi, "An Omnidirectional Stereo System for Logistic Plants. Part 2: Stereo Reconstruction and Obstacle Detection Using Digital Elevation Maps", *Proceedings of Romanian Academy*, series A, Volume: 18 Issue: 3 pp. 265-272, 2017.
11. VC Miclea, S Nedevschi, "Semantic segmentation-based stereo reconstruction with statistically improved long range accuracy", *Proceedings of 2017 IEEE Intelligent Vehicles Symposium (IV)*, Redondo Beach, CA, USA, June 11-14, 2017, pp. 1795-1802.
12. A. Costea, S. Nedevschi, "Traffic Scene Segmentation based on Boosting over Multimodal Low, Intermediate and High Order Multi-range Channel Features", *in Proceedings of 2017 IEEE Intelligent Vehicles Symposium (IV)*, Redondo Beach, CA, USA, June 11-14, 2017, pp. 74-81.
13. R. Varga, AD. Costea, H. Florea, I. Giosan, S. Nedevschi, "Super-sensor for 360-degree Environment Perception: Point Cloud Segmentation Using Image Features", *Proceedings of 2017 IEEE Intelligent Transportation Systems Conference (ITSC)*, Yokohama, Japan, best student paper award, 16-19 October, 2017, pp. 1-8.
14. AD Costea, R Varga, S Nedevschi, "Fast Boosting Based Detection Using Scale Invariant Multimodal Multiresolution Filtered Features", *Proceedings of 2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 2017, pp. 993-1002.
15. A. Costea, S. Nedevschi, "Fast traffic scene segmentation using multi-range features from multi-resolution filtered and spatial context channels", *Proceedings of 2016 Intelligent Vehicles Symposium (IV)*, Goteborg, Sweden, 19-22 June, 2016, pp. 328-334.
16. A. Costea, S. Nedevschi, "Semantic Channels for Fast Pedestrian Detection", *Proceedings of 2016 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Las Vegas, USA, June, 2016, pp. 2360-2368.
17. C. Vicas, S. Nedevschi, "Detecting Curvilinear Features Using Structure Tensors", *IEEE Transactions on Image Processing*, vol. 24, no. 11, pp. 3874 – 3887, Nov. 2015.
18. M. Negru, S. Nedevschi, RI Peter, Exponential Contrast Restoration in Fog Conditions for Driving Assistance, *IEEE Transactions on Intelligent Transportation Systems*, Vol. 16, No. 4, pp. 2257-2268, AUG 2015.
19. V. Popescu, S. Nedevschi, R. Danescu, T. Marita, A Lane Assessment Method Using Visual Information Based on a Dynamic Bayesian Network, *JOURNAL OF INTELLIGENT TRANSPORTATION SYSTEMS*, Vol. 19. No. 3, pp. 225-239, JUL 2015.
20. A. Ciurte, S. Nedevschi, I. Rasa, Systems of nonlinear algebraic equations with unique solution, *NUMERICAL ALGORITHMS,* Vol. 68, No. 2, pp. 367-376, FEB 2015.

21. A. Vatavu, R. Danescu, S. Nedevschi, "Stereovision-Based Multiple Object Tracking in Traffic Scenarios Using Free-Form Obstacle Delimiters and Particle Filters", *IEEE Transactions on Intelligent Transportation Systems* , Vol. 16, No. 1, pp. 498-511, FEB. 2015.
22. R. Danescu and S. Nedevschi, "A Particle-Based Solution for Modeling and Tracking Dynamic Digital Elevation Maps", *IEEE Transactions on Intelligent Transportation Systems*, Vol. 15, No. 3, pp.: 1002-1015, JUN 2014.
23. M. Drulea, S. Nedevschi, "Motion estimation using the correlation transform", *IEEE Transactions on Image Processing*, vol. 22, no. 8, pp. 3260-3270, DEC 2013.
24. S. Nedevschi, V. Popescu, D. Radu, M. Tiberiu, F. Oniga, "Accurate Ego-Vehicle Global Localization at Intersections through Alignment of Visual Data with Digital Map", *IEEE Transactions on Intelligent Transportation Systems*, vol.14, Issue 2, pp. 673-687, JUN 2013.
25. R. Varga, S. Nedevschi, "Label transfer by Measuring Compactness", *IEEE Transactions on Image Processing*, MAY 2013.
26. Ciurte, S. Nedevschi, I. Rasa, "An algorithm for solving some nonlinear systems with applications to extremum problems", *Taiwanese Journal of Mathematics*, vol. 16, no.3, pp. 1137-1150, 2012.
27. C. Pantilie, S. Nedevschi, "SORT-SGM: Sub-pixel Optimized Real-Time Semi-Global Matching for Intelligent Vehicles", *IEEE Transactions on Vehicular Technology*, vol. 61, no. 3, pp. 1032-1042, MAR 2012.
28. I. Haller, S. Nedevschi, "Design of Interpolation Functions for Sub-Pixel Accuracy Stereo-Vision Systems", *IEEE Transactions on Image Processing*, vol. 21, no. 2, pp. 889-898, FEB 2012.
29. S. Nedevschi, S. Bota, C. Tomiuc, "Stereo-Based Pedestrian Detection for Collision-Avoidance Applications", *IEEE Transactions on Intelligent Transportation Systems*, 2009, vol. 10, no. 3, pp. 380-391, 2009.
30. R. Danescu, S. Nedevschi, "Probabilistic Lane Tracking in Difficult Road Scenarios Using Stereovision", *IEEE Transactions on Intelligent Transportation Systems*, vol. 10, no. 2, pp. 272-282, 2009.
31. S. Nedevschi, C. Vancea, T. Marita, T. Graf, "Online Extrinsic Parameters Calibration for Stereovision Systems Used in Far-Range Detection Vehicle Applications", *IEEE Transactions on Intelligent Transportation Systems*, vol. 8, no. 4, pp. 651-660, 2007.

Citations:
h-index 22 in ISI Web of Science and 1750 citations
h-index 27 in Scopus and 2866 citations
h-index 35 in Google Academic and 4850 citations

Activity:
- Associate Editor for IEEE Transactions on Intelligent Transportation Systems
- Associate Editor for IEEE Transactions on Intelligent Vehicles
- Associate Editor for Electronic Letters on Computer Vision and Image Processing
- Reviewer: IEEE Transactions on Intelligent Transportation Systems, IEEE Transactions on Vehicular Technologies, IEEE Transactions on Image Processing, IEEE Transactions on Pattern Analysis, Optics and Lasers in Engineering, Sensors, etc.
- External PhD and habilitation evaluator at universities from Romania, France, Sweden, Ireland, Australia, Pakistan
- Invited professor at Mercedes-Benz Research and Development North America, Sunnyvale CA, USA, VTT Tampere and Helsinki, Finland, SICK Hamburg Germany, Chonnam National University from Gwangju, Korea, University of Limerick, Ireland, Technical University of Braunschweig and Technical University of Muenchen, Germany.
- Conference Chair, PC co-chair, PC member, member in the local organizing committee, session chair of more than 50 international conferences and workshops: IEEE IV Symposium, IEEE ITSC, IEEE ICCP, IEEE INES, CVVT:E2M, ICINCO, CSCS, SINTES, IEEE SACII. IEEE AQTR
- 23 PhD students received their PhD title under my coordination.

Awards and Honors:
-Correspondent member of Romanian Academy
-Correspondent member of Romanian Academy of Technical Sciences
-"Best Associate Editor Award of the IEEE Transactions on Intelligent Transportation System" in 2011 given by IEEE Intelligent Transportation Systems Society in 2012,
-"Constantin Budeanu" Romanian Academy Prize in 2009 for papers published in „Stereovision Based Sensorial Perception",
-"Marius Hanganut" Prize of Technical University of Cluj-Napoca in 2005 for Achievements in Research Activity.

October 2020   **Sergiu Nedevschi**
                                                     Professor in Computer Science