

Articole științifice**Articole publicate in jurnale indexate ISI**

S. Nedevschi, T. Marita, M. Vaida, R. Danescu, D. Frentiu, F. Oniga, C. Pocol, and D. Moga, “Camera Calibration Method for Stereo Measurements”, *Journal of Control Engineering and Applied Informatics*, vol. 4, no. 2, p. 21-28, 2002.

P. Jeong, **S. Nedevschi**, “Efficient and robust classification method using combined feature vector for lane detection”, *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 15, no. 4, pp. 528 – 537, 2005.

P. Jeong, **S. Nedevschi**, “Local Difference Probability (LDP)-Based Environment Adaptive Algorithm for Unmanned Ground Vehicle”, in *IEEE Transactions on Intelligent Transportation Systems*, vol. 7, no. 3, pp. 282 – 292, 2006.

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.

C. Tomiuc, **S. Nedevschi**, “Real-time pedestrian classification exploiting 2D and 3D information”, *IET Intelligent Transportation Systems Journal*, 2008, vol.2, no. 3, pp 201-210.

S. Bota, **S. Nedevschi**, ”Multi-Feature Walking Pedestrians Detection for Driving Assistance Systems”, *IET Intelligent Transportation Systems Journal*, 2008, vol. 2, no. 2, pp. 92-104.

M. Lupșor, R. Badea, C. Vicas, **S. Nedevschi**, M. Grigorescu, H. Stefanescu, Z. Sparchez, C. Radu, D. Crisan, A. Serban, “Detection of Steatosis in Chronic Hepatitis C, Based on the Evaluation of the Attenuation Coefficient Computed on the Ultrasound Image”, *Medical Ultrasonography*, vol. 10, no. 1, 2008, pp. 13-20.

D. Mitrea, **S. Nedevschi**, M. Lupșor, R. Badea, Textural models based on ultrasound images for the detection of hepatocellular carcinoma in early and advanced stages, *NAUN International Journal of Computers*, vol. 1, no.2, 2008, pp. 66-73.

S. Nedevschi, S. Bota, C. Tomiuc, “Stereo-Based Pedestrian Detection for Collision-Avoidance Applications”, *IEEE Transactions on Intelligent Transportation Systems*, vol. 10, no. 3, pp. 380-391, 2009.

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.

F. Oniga, **S. Nedevschi**, “Processing Dense Stereo Data Using Elevation Maps: Road Surface, Traffic Isle, and Obstacle Detection”, *IEEE Transactions on Vehicular Technology*, vol. 59 no. 3 pp. 1172-1182, 2010.

A. Ciurte, **S. Nedevschi**, I. Rasa, "A Generalization of the EMMML and ISRA Algorithms for Solving Linear Systems", in *Journal of Computational Analysis and Applications*, vol. 12, no. 4, pp. 1172-1182, 2010.

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, pp. 1331-1342, December 2011.

C. Vicas, M. Lupsor, R. Badea, **S. Nedevschi** et al., Usefulness of textural analysis as a tool for noninvasive liver fibrosis staging, *Journal of Medical Ultrasonics*, vol. 38, no. 3, pp. 105-117, 2011.

S. Danescu, S. Senila, L. Lelutiu, **S. Nedevschi**, R. Cosgarea, Dystrophic epidermolysis bullosa: two case reports, *Romanian Journal of Morphology and Embryology*, vol. 52, no.3 pp. 919-922, 2011.

C. Vicas, M. Lupsor, M. Socaciu, **S. Nedevschi**, R. Badea, "Influence of expert-dependent variability over the performance of noninvasive fibrosis assessment in patients with chronic hepatitis C by means of texture analysis", *Computational and Mathematical Methods in Medicine – Jurnal Hindawi*, Article ID 346713, DOI: 10.1155/2012/346713, 2012.

D. Mitrea, P. Mitrea, **S. Nedevschi**, R. Badea, M. Lupșor, M. Socaciu, A. Golea, C. Hagi, L. Ciobanu, "Abdominal tumor characterization and recognition using superior order cooccurrence matrices, based on ultrasound images", *Computational and Mathematical Methods in Medicine – Jurnal Hindawi*, Article ID 348135, 17 pages, DOI: 10.1155 /2012/348135, 2012.

AI Mitrea, R. Badea, D. Mitrea, **S. Nedevschi**, P. Mitrea, MD. Ivan, OM. Gurzau, Iterative Methods for Obtaining Energy-Minimizing Parametric Snakes with Applications to Medical Imaging, *Computational and Mathematical Methods in Medicine – Jurnal Hindawi*, Article ID 918510 DOI: 10.1155/2012/918510, 2012.

R. Danescu, C. Pantilie, F. Oniga, **S. Nedevschi**, "Particle Grid Tracking System for Stereovision Based Obstacle Perception in Driving Environments", *IEEE Intelligent Transportation Systems Magazine*, vol. 4, No. 1, pp. 6-20, March 2012.

C. Pantilie, **S. Nedevschi**, "SORT-SGM: Sub-pixel Optimized Real-Time Semi-Global Matching for Intelligent Vehicles", in *IEEE Transactions on Vehicular Technology*, vol. 61, no. 3, pp. 1032-1042, 2012

A. Ciurte, **S. Nedevschi**, I. Rasa, "An algorithm for solving some nonlinear systems with applications to extremum problems", in *Taiwanese Journal of Mathematics*, vol 16, no. 3, pp. 1137-1150, 2012.

D. Mitrea, **S. Nedevschi**, M. Socaciu, et al., The Role of the Superior Order GLCM in the Characterization and Recognition of the Liver Tumors from Ultrasound Images, in *RADIOENGINEERING*, vol. 21, no. 6, pp. 79-85, 2012.

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, 2012.

M. Drulea and **S. Nedevschi**, "Motion Estimation Using the Correlation Transform," *IEEE Transactions on Image Processing*, vol. 22, pp. 3260-3270, Aug 2013.

R. Varga and **S. Nedevschi**, "Label Transfer by Measuring Compactness," *IEEE Transactions on Image Processing*, vol. 22, pp. 4711-4723, Dec 2013

B. Belean, M. Borda, A. Bot, and **S. Nedevschi**, "Low Complexity Approach for High Throughput Belief-Propagation based Decoding of LDPC Codes," *Advances in Electrical and Computer Engineering*, vol. 13, pp. 69-72, 2013.

S. Nedevschi, V. Popescu, R. Danescu, T. Marita, 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, No. 2, pp. 673-687, June 2013.

R. Danescu, **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, June 2014.

A. Ciurte, X. Bresson, O. Cuisenaire, N. Houhou, **S. Nedevschi**, J. P. Thiran, et al., "Semi-Supervised Segmentation of Ultrasound Images Based on Patch Representation and Continuous Min Cut," *Plos One*, vol. 9, Jul 2014.

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, February 2015.

C. Vicas and **S. Nedevschi**, "Detecting Curvilinear Features Using Structure Tensors," *IEEE Transactions on Image Processing*, vol. 24, pp. 3874-3887, Nov 2015.

M. Negru, **S. Nedevschi**, and R. I. Peter, "Exponential Contrast Restoration in Fog Conditions for Driving Assistance," *IEEE Transactions on Intelligent Transportation Systems*, vol. 16, pp. 2257-2268, Aug 2015.

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: Technology, Planning, and Operations*, vol. 19, No. 3, pp. 225-239, 2015.

D. Mitrea, **S. Nedevschi**, M. Abrudean, M. Lupsor-Platon, and R. Badea, "The Role of the Textural Microstructure Co-occurrence Matrices in the Automatic Detection of the Cirrhosis Severity Grades from Ultrasound Images," *Control Engineering and Applied Informatics*, vol. 18, pp. 96-106, Dec 2016.

A Ciurte, **S Nedevschi**, I Rasa, "Systems of nonlinear algebraic equations with positive solutions", *Journal of Inequalities and Applications* 2017 (1), 178, 2017.

M. Drulea, A. Vatavu, S. Mandici, **S. Nedevschi**, "An omnidirectional stereo system for logistic plants. Part 1: Calibration and multi-channel rectification", *Proceedings of the*

Romanian Academy Series A - Mathematics Physics Technical Sciences Information Science, 18(1), pp. 89-97, 2017.

M. Drulea, A. Vatavu, S. Mandici, **S. Nedevschi**, “An omnidirectional stereo system for logistic plants. Part 2: Stereo reconstruction and obstacle detection using digital elevation maps”, *Proceedings of the Romanian Academy Series A - Mathematics Physics Technical Sciences Information Science*, 18(3), pp. 265-272, 2017.

Lorenzo Sabattini, Mika Aikio, Patric Beinschob, Markus Boehning, Elena Cardarelli, Valerio Digani, Annette Kregel, Massimiliano Magnani, Szilard Mandici, Fabio Oleari, Christoph Reinke, Davide, Christian Stimming, Robert Varga, Andrei Vatavu, Sergi Castells Lopez, Cesare Fantuzzi, Aki Mayra, **Sergiu Nedevschi**, Cristian Secchi, Kay Fuerstenberg, ”The PAN-Robots Project: Advanced Automated Guided Vehicle Systems for Industrial Logistics”, *IEEE Robotics & Automation Magazine*, vol. 25, no. 1, pp. 55-64, MAR 2018.

V. Miclea, **S.Nedevschi**, ”Real-Time Semantic Segmentation-Based Stereo Reconstruction”, *IEEE Transactions on Intelligent Transportation Systems*, DOI: 10.1109/TITS.2019.2913883, 2019.

Articole publicate la conferinte indexate ISI

D. Olinic, **S. Nedevschi**, D. Negrescu, A. Jascau, R. Vlaicu, and N. Olinic, “Averaged unfiltered electrocardiograms in the investigation of late potentials”, in *Computers in Cardiology*, 1992, p. 405-408.

D. Olinic, F. Tremel, P. Defaye, N. Olinic, **S. Nedevschi**, R. Vlaicu, and B. Denis, “Quantification of fragmented ventricular depolarizations over the entire QRS complex for improving the identification of patients with ventricular tachycardia”, in *Computers in Cardiology*, 1993, p. 69-72.

S. Nedevschi, “A robust and effective method for bidimensional recognition of 2D and 3D objects from intensity images”, in *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS 1994*, September 12 - 16, 1994, Munich, Germany, 1994, p. 2044–2051.

D. Olinic, **S. Nedevschi**, C. Feier, Z. Gal, and N. Olinic, “Structured medical text field of DICOM 3.0 transesophageal echocardiography image file for database implementation”, in *Computers in Cardiology*, 1999, p. 443-446.

S. Nedevschi, T. Marita, and D. Puiu, “Intermediate Representation in Model Based Recognition Using Straight Line and Ellipsoidal Arc Primitives”, in *11th International Conference on Image Analysis and Processing (ICIAP 2001)*, 26-28 September 2001, Palermo, Italy, 2001, p. 156–161.

S. Nedevschi, D. Olinic, Z. Gyöngyi, **S. Nedevschi Jr.**, and R. Teodorescu, “Feature based retrieval of echocardiographic images using DICOM structured reporting”, in *Computers in Cardiology*, Rotterdam, 2001, p. 679–682.

S. Nedevschi, I. Salomie, Z. Gyöngyi, S. Nedevschi jr., R. Teodorescu, D. Olinic, Retrieval of DICOM Ultrasound Images Based On Structured Medical Description, *Proceedings of ICETA 2001*, 17-19 October, 2001, Kosice, Slovakia, ELFA s. r. o., pp. 181-186

P. Jeong and **S. Nedevschi**, “Intelligent road detection based on local averaging classifier in real-time environments”, in *12th International Conference on Image Analysis and Processing (ICIAP 2003)*, 17-19 September 2003, Mantova, Italy, 2003, p. 245–249.

S. Nedevschi, D. Olinic, R. Popovici, F. Rusu, A. Smeu, and C. Homorodean, “DICOM compliant environment for structured reporting in echocardiography”, in *Computers in Cardiology*, Thessaloniki Khalkidhiki, 2003, vol. 30, p. 29–32.

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”, *Proceedings of IEEE Intelligent Vehicles Symposium (IV'04)*, Parma, Italy, June 14-17, 2004, pp. 292-297.

S. Nedevschi, R. Schmidt, T. Graf, R. Danescu, D. Frentiu, T. Marita, F. Oniga, C. Pocol, “3D Lane Detection System Based on Stereovision”, *Proceedings of IEEE Intelligent Transportation Systems Conference (ITSC'04)*, Washington, USA, 4-6 October, 2004, pp. 161-166.

S. Nedevschi, R. Danescu, T. Marita, F. Oniga, C. Pocol, S. Sobol, T. Graf, R. Schmidt, “Driving Environment Perception Using Stereovision”, *Proceedings of 2005 IEEE Intelligent Vehicles Symposium (IV2005)*, June 2005, Las Vegas, USA, pp.331-336.

S. Nedevschi, S. Bota, T. Marita, F. Oniga, C. Pocol, ”Real-Time 3D Environment Reconstruction Using High Precision Trinocular Stereovision”, in *Proceedings of 2006 IEEE-TTTC International Conference on Automation, Quality&Testing, Robotics (AQTR 2006)*, Cluj-Napoca, Romania, May 25-28, 2006, pp. 333-338.

T. Marita, F. Oniga, **S. Nedevschi**, T. Graf, R. Schmidt, Camera Calibration Method for Far Range Stereovision Sensors Used in Vehicles, *Proceedings of IEEE Intelligent Vehicles Symposium*, (IV2006), Tokyo, 2006, pp. 356-363.

S. Nedevschi, F. Oniga, R. Danescu, T. Graf, R. Schmidt, Increased Accuracy Stereo Approach for 3D Lane Detection, *Proceedings of IEEE Intelligent Vehicles Symposium (IV2006)*, Tokyo, Tokyo, 2006, pp. 42-49.

S. Nedevschi, T. Marita, R. Danescu, F. Oniga, C. Pocol, S. Sobol, C. Tomiuc, C. Vancea, S. Bota, Stereovision Sensor for Driving Assistance, in *Proceedings of 2006 IEEE International Conference on Intelligent Computer Communication and Processing (ICCP 2006)*, September 1-2, 2006, Cluj-Napoca, Romania, vol.1, pp. 105-112.

R. Danescu, S. Sobol, **S. Nedevschi**, T. Graf, Stereovision-Based Side Lane and Guardrail Detection, in *Proceedings of 2006 IEEE Intelligent Transportation Systems Conference (ITSC 2006)*, Toronto, September 17-20, 2006, pp. 1156-1161.

S. Bota, **S. Nedevschi**, Multi-Feature Walking Pedestrian Detection Using Dense Stereo Motion, in *Proceedings of the 4th International Workshop on Intelligent Transportation (WIT 2007)*, 20-21 March, 2007, Hamburg, pp. 113-118.

S. Nedevschi, C. Tomiuc, S. Bota, "Stereo Based Pedestrian Detection for Collision Avoidance Applications", *Proceedings of 2007 IEEE ICRA Workshop: Planning, Perception and Navigation for Intelligent Vehicles*, April 10-14, 2007, Roma, pp. 39-44.

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", *Proceedings of 2007 IEEE Intelligent Vehicles Symposium (IV 2007)*, 13-15 June, 2007, Istanbul, pp. 278-286.

R. Danescu, **S. Nedevschi**, T. B. To, "A Stereovision-Based Lane Detector for Marked and Non-Marked Urban Roads", *Proceedings of 2007 IEEE International Conference on Intelligent Computer Communication and Processing (ICCP 2007)*, Sept. 6-8, 2007, Cluj-Napoca, Romania, pp. 81-88.

F. Oniga, **S. Nedevschi**, M-M. Meinecke, "Curb Detection Based on Elevation Maps from Dense Stereo", *Proceedings of 2007 International IEEE Conference on Intelligent Computer Communication and Processing (ICCP 2007)*, Sept. 6-8, 2007, Cluj-Napoca, Romania, pp. 119-126.

T. Marita, F. Oniga, **S. Nedevschi**, T. Graf, Calibration Accuracy Assessment Methods for Stereovision Sensors Used in Vehicles, in *Proceedings of 2007 IEEE International Conference on Intelligent Computer Communication and Processing (ICCP2007)*, Sept. 6-8, 2007, Cluj-Napoca, Romania, pp. 111-118.

C. Pocol, **S. Nedevschi**, "Obstacle Detection for Mobile Robots, Using Dense Stereo Reconstruction," in *Proceedings of 2007 IEEE International Conference on Intelligent Computer Communication and Processing (ICCP'07)*, Cluj-Napoca, Romania, September 6-8, 2007, pp. 127-132.

C. Vancea, S. Nedevschi, "LUT-based image rectification module implemented in FPGA" in *Proceedings of 2007 IEEE International Conference on Intelligent Computer Communication and Processing (ICCP 2007)*, Cluj-Napoca, România, September 6-8, 2007, pp. 147-154.

R. Danescu, **S. Nedevschi**, M.M. Meinecke, T.B. To, "Lane Geometry Estimation in Urban Environments Using a Stereovision System", in *Proceedings of the 2007 IEEE Intelligent Transportation Systems Conference (ITSC 2007)*, Seattle, USA, September 30 – October 3, 2007, pp. 271-276.

R. Danescu, **S. Nedevschi**, M.M. Meinecke, T. Graf, "Stereovision Based Vehicle Tracking in Urban Traffic Environments", *Proceedings of the 2007 IEEE Intelligent Transportation Systems Conference (ITSC 2007)*, Seattle, USA, September 30 – October 3, 2007, pp. 859-865.

F. Oniga, **S. Nedevschi**, M-M. Meinecke, T-B. To, "Road Surface and Obstacle Detection Based on Elevation Maps from Dense Stereo", *Proceedings of the 10th International 2007*

IEEE Conference on Intelligent Transportation Systems (ITSC 2007), Seattle, USA, September 30 - October 3, 2007, pp. 401-404.

M. Lupsor, **S. Nedevschi**, C. Vicas, R. Badea, M. Grigorescu, S. Tripon, H. Stefanescu, C. Radu, A. Serban, and T. Suteu, "Estimating the fibrosis stage in the human liver tissue using image processing methods on ultrasonographic images: Preliminary results," in *Proceedings of the 3rd International Conference EMMIT 2007*, pp. 311 - 318.

A. Vatavu, **S. Nedevschi**, F. Oniga, Real Time Object Delimiters Extraction for Environment Representation in Driving Scenarios, ICINCO-RA 2009, Milano, Italy, pp. 86-93.

S. Nedevschi, A. Vatavu, F. Oniga, "Forward Collision Detection based on Elevation Map from Dense Stereo", in *Proceedings of the 2008 IEEE IROS 2nd Workshop on Planning, Perception and Navigation for Intelligent Vehicles*, Nice, France, pp 76-81.

S. Nedevschi, R. Danescu, C. Pocol, M. M. Meinecke, "Stereo Image Processing for ADAS and Pre-Crash Systems", in *Proceedings of the 5th International Workshop on Intelligent Transportation (WIT 2008)*, Hamburg, Germany, March, 2008, pp. 55-60.

C. Pocol, **S. Nedevschi**, M.M. Meinecke, "Obstacle Detection Based on Dense Stereovision for Urban ACC Systems", in *Proceedings of the 5th International Workshop on Intelligent Transportation (WIT 2008)*, Hamburg, Germany, March, 2008, pp 13-18.

T. T. Binh, M. M. Meinecke, F. Schroven, **S. Nedevschi**, J. C. Knaup, "CityACC – On the way towards an intelligent autonomous driving", *Proceedings of 17th World Congress of The International Federation of Automatic Control*, Seoul, Korea, 2008, pp 9534-9539.

F. Oniga, **S. Nedevschi**, M. M. Meinecke, "Curb Detection Based on a Multi-Frame Persistence Map for Urban Driving Scenarios", in *Proceedings of 2008 IEEE Intelligent Transportation Systems Conference (ITSC'08)*, October 12-15, 2008, Beijing, China, pp 67-72.

R. Danescu, **S. Nedevschi**, M. M. Meinecke, T. B. To, "A Stereovision-Based Probabilistic Lane Tracker for Difficult Road Scenarios", in *Proceedings of 2008 IEEE Intelligent Vehicles Symposium (IV2008)*, Eindhoven, The Netherlands, June 4-6, 2008, pp 536-541.

S. Nedevschi, A. Ciurte, G. Mile, "Kidney CT Image Segmentation Using Multi-Feature EM Algorithm, Based on Gabor Filters", *Proceedings of IEEE 4-th International Conference on Intelligent Computer Communication and Processing*, Technical University of Cluj-Napoca, Cluj-Napoca, Romania, 2008, pp 283-286.

S. Nedevschi, C. Pantilie, T. Marita, S. Dudea, "Statistical Methods for Automatic Segmentation of Elastographic Images", *Proceedings of IEEE International Conference on Intelligent Computer Communication and Processing, (ICCP 2008)*, Technical University of Cluj-Napoca, Cluj-Napoca, Romania, 2008, pp 287-290.

S. Nedevschi, C. Vicas, D. Mitrea, M. Lupsor, M. Grigorescu, R. Badea, "Usefulness Of Attenuation And Backscattering Coefficients In Investigating Complex Non-Alcoholic Steatohepatitis From Ultrasound Images, Preliminary Results", *Proceedings of Analysis of Biomedical Signals and Images, Biosignal 2008*, ID 126: 1-5.

S. Nedevschi, C. Golban, C. Mitran, ” Improving Accuracy for Ego Vehicle Motion Estimation using Epipolar Geometry”, in *Proceedings of 2009 IEEE Intelligent Transportation Systems Conference*, St. Louis, USA, October 3-7, 2009, pp. 596-602.

S. Nedevschi, T. Marita, R. Danescu, F. Oniga, S. Bota,”On-board Stereo Sensor for Intersection Driving Assistance. Architecture and Specification”, in *Proceedings of 2009 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, August 27-29, 2009, pp. 409-416.

R. Danescu, F. Oniga, **S. Nedevschi**, M-M. Meinecke, ”Tracking Multiple Objects Using Particle Filters and Digital Elevation Maps”, in *Proceedings of 2009 IEEE Intelligent Vehicles Symposium*, Xi’An, China, June 3-5, 2009, pp. 88-93.

F. Oniga, **S. Nedevschi**, M. M. Meinecke, Temporal Integration of Occupancy Grids Detected from Dense Stereo Using an Elevation Map Representation, in *Proceedings of the 6th International Workshop on Intelligent Transportation (WIT 2009)*, Hamburg, Germany, March 24-25, 2009, pp. 133-138.

S. Bota, **S. Nedevschi**, M. Koenig, A Framework for Object Detection, Tracking and Classification in Urban Traffic Scenarios Using Stereovision, in *Proceedings of 2009 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, August 27-29, 2009, pp. 153-156.

R. Danescu, D. Lebu, F. Oniga, **S. Nedevschi**, M.M. Meinecke, A Flexible Solution for Detection and Tracking of Multiple Objects, in *Proceedings of 2009 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, August 27-29, 2009, pp. 165-168.

F. Oniga, **S. Nedevschi**, R. Danescu, M.M. Meinecke, ”Global Map Building Based on Occupancy Grids Detected from Dense Stereo in Urban Environments”, in *Proceedings of 2009 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, August 27-29, 2009, pp. 111-118.

C. Golban, C. Mitran, **S. Nedevschi**, ”A Practical Method for Ego Vehicle Motion Estimation from Video”, in *Proceedings of 2009 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, August 27-29, 2009, pp. 87-94.

A. Vataavu, **S. Nedevschi**, F. Oniga, Real Time Object Delimiters Extraction for Environment Representation in Driving Scenarios, *Proceedings of ICINCO-RA 2009*, Milano, Italy, pp. 86-93.

R. Danescu, F. Oniga, **S. Nedevschi**, “Particle Grid Tracking System for Stereovision Based Environment Perception”, in *Proceedings of the IEEE Intelligent Vehicles Symposium (IEEE-IV 2010)*, June 2010, San Diego, USA, pp. 987-992.

I. Haller, C. Pantilie, F. Oniga, **S. Nedevschi**, “Real-Time Semi-Global Dense Stereo Solution with Improved Sub-Pixel Accuracy”, *Proceedings of 2010 IEEE Intelligent Vehicles Symposium*, June 21-24, 2010, University of California, San Diego, CA, USA, pp. 369 – 376.

R. Danescu, **S. Nedevschi**, “Detection and Classification of Painted Road Objects for Intersection Assistance Applications”, in *Proceedings of 2010 IEEE Intelligent Transportation Systems Conference (IEEE-ITSC 2010)*, September 2010, Madeira, Portugal, pp. 433-438.

F. Oniga, **S. Nedevschi**, “Polynomial Curb Detection Based on Dense Stereovision for Driving Assistance”, in *Proceedings of 2010 IEEE Intelligent Transportation Systems Conference (IEEE-ITSC 2010)*, September 2010, Madeira, Portugal, pp.1110-1115.

C. Pantilie, **S. Nedevschi**, “Real-Time Obstacle Detection in Complex Scenarios Using Dense Stereo Vision and Optical Flow”, in *Proceedings of 2010 IEEE Intelligent Transportation Systems Conference (IEEE-ITSC 2010)*, September 2010, Madeira, Portugal, pp. 439-444.

I. Haller, C. Pantilie, T. Marita, **S. Nedevschi**, “Statistical method for sub-pixel interpolation function estimation” in *Proceedings of 2010 13th International IEEE Conference on Intelligent Transportation Systems (ITSC)*, Funchal, Madeira Island, Portugal, October 2010, pp. 1098 - 1103.

D. Pojar, P. Jeong, **S. Nedevschi**, “Improving Localization Accuracy Based on Lightweight Visual Odometry”, in *Proceedings of 2010 IEEE Intelligent Transportation Systems Conference (IEEE-ITSC 2010)*, September 2010, Madeira, Portugal, pp.641-646.

S. Nedevschi, V. Popescu, T. Marita, R. Danescu, M.M. Meinecke, M.A. Obojski, J. Knaup, “Intersection Modeling by Sensorial and Digital Map Data Alignment”, in *Proceedings of 2010 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, August 26-28, 2010, pp. 393-400.

S. Nedevschi, I. R. Peter, I. A. Dobos, C. Prodan, “An improved PCA type algorithm applied in face recognition”, in *Proceedings of 2010 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, August 26-28, 2010, pp. 259-262.

I. Haller, **S. Nedevschi**, “GPU optimization of the SGM stereo algorithm”, in *Proceedings of 2010 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, August 26-28, 2010, pp. 197-202.

M. Drulea, R. Peter, **S. Nedevschi**, “Optical flow. A combined local-global approach using L1 norm”, in *Proceedings of 2010 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, August 26-28, 2010, pp. 217-222.

S. Bota, **S. Nedevschi**, “Tracking multiple objects in urban traffic environments using dense stereo and optical flow”, *Proceedings of 2011 Conference on Intelligent Transportation Systems*, Washington DC, USA, 2011, pp. 791–796.

C. Pantilie, **S. Nedevschi**, “Real-time semi-global matching using segmentation and plane fitting for improved accuracy on the GPU”, *Proceedings of 2011 Conference on Intelligent Transportation Systems*, Washington DC, USA, 2011, pp. 784–790.

M. Drulea, **S. Nedevschi**, “Total variation regularization of local-global optical flow”, *Proceedings of 2011 Conference on Intelligent Transportation Systems*, Washington DC, USA, 2011, pp. 318–323.

I. Szakats, C. Golban, **S. Nedevschi**, “Fast vision based ego-motion estimation from stereo sequences - A GPU approach”, *Proceedings of 2011 Conference on Intelligent Transportation Systems*, Washington DC, USA, 2011, pp. 538–543.

C. Golban, **S. Nedevschi**, “Linear vs. non linear minimization in stereo visual odometry”, *Proceedings of 2011 IEEE Intelligent Vehicle Symposium*, Baden-Baden, 2011, pp. 888–894.

O. Aycard, Q. Baig, S. Bota, F. Nashashibi, **S. Nedevschi**, C. Pantilie, M. Parent, P. Resende, Vu Trung-Dung, “Intersection safety using lidar and stereo vision sensors”, *Proceedings of 2011 IEEE Intelligent Vehicle Symposium*, Baden-Baden, 2011, pp. 863–869.

R. Danescu, **S. Nedevschi**, “New results in stereovision based lane tracking”, *Proceedings of 2011 IEEE Intelligent Vehicles Symposium*, Baden-Baden, Germania, 2011, pp. 230 – 235.

F. Oniga, **S. Nedevschi**, “Curb detection for driving assistance systems: A cubic spline-based approach”, *Proceedings of 2011 IEEE Intelligent Vehicle Symposium*, Baden-Baden, 2011, pp. 945–950.

V. Popescu, M. Bace, **S. Nedevschi**, “Lane identification and ego-vehicle accurate global positioning in intersections”, *Proceedings of 2011 IEEE Intelligent Vehicle Symposium*, Baden-Baden, 2011, pp. 870–875.

A. Ciurte, N. Houhou, **S. Nedevschi**, A. Pica, F.L. Munier, J.-P. Thiran, X. Bresson, M.B. Cuadra, “An efficient segmentation method for ultrasound images based on a semi-supervised approach and patch-based features”, *Proceedings of 2011 IEEE International Symposium on Biomedical Imaging – From Nano to Macro*, Chicago, USA, 2011, pp. 969–972.

I. Toma, M. Chezan, R. Brehar, **S. Nedevschi**, D. Fensel, “SIM, a Semantic Instrumentation and Monitoring Solution for Large Scale Reasoning Systems”, *Proceedings of 2011 IEEE International Conference on Semantic Computing*, Palo Alto CA, USA, 2011, pp. 118–124.

S. Nedevschi, R. Peter, A. Mandrut, “Performance prediction using Kernel Canonical Correlation Analysis”, *Proceedings of 2011 IEEE Intelligent Computer Communication and Processing*, Cluj-Napoca, 2011, pp. 157–162.

A. Vatavu, **S. Nedevschi**, “Real-Time Modeling of Dynamic Environments in Traffic Scenarios using a Stereo-Vision System”, *Proceedings of 2012 15th International IEEE Conference on Intelligent Transportation Systems (ITSC)*, September 2012, Ankorage, USA, pp. 722-727.

C. Golban, I. Szakats, **S. Nedevschi**, “Stereo Based Visual Odometry in Difficult Traffic Scenes”, *Proceedings of the 2012 IEEE Intelligent Vehicle Symposium*, June 2012, Alcalá de Henares, Spain, pp. 736-741.

V. Popescu, R. Danescu, **S. Nedevschi**, “On-Road Position Estimation by Probabilistic Integration of Visual Cues”, *Proceedings of the 2012 IEEE Intelligent Vehicle Symposium*, June 2012, Alcalá de Henares, Spain, pp. 583-589.

A. Vatavu, R. Danescu, **S. Nedevschi**, “Real-Time Dynamic Environment Perception in Driving Scenarios Using Difference Fronts”, *Proceedings of the 2012 IEEE Intelligent Vehicle Symposium*, June 2012, Alcalá de Henares, Spain, pp. 717-722.

A. Vatavu, **S. Nedevschi**, "Vision based Real-time Modeling of Dynamic Unstructured Environments in Driving Scenarios", in *Proceedings of 2012 ICINCO*, Volume 2, Rome, Italy, 28 - 31 July, 2012, pp.141-149.

D. Pojar and **S. Nedevschi**, “Improving Stereo Vision Odometry for Mobile Robots in Outdoor Dynamic Environments”, in *Proceedings of 2012 ICINCO*, Volume 2, Rome, Italy, 28 - 31 July, 2012, pp. 476–480

R. Danescu and **S. Nedevschi**, “Flexible solution for modeling and tracking generic dynamic 3D environments”, in *Proceedings of 16th International IEEE Conference on Intelligent Transportation Systems (ITSC 2013)*, The Hague, Netherlands, 2013, p. 1686–1692.

R. Brehar and **S. Nedevschi**, “Pedestrian detection in traffic scenes using multi-attitude classifiers”, in *Proceedings of 16th International IEEE Conference on Intelligent Transportation Systems (ITSC 2013)*, The Hague, Netherlands, 2013, p. 1077–1082.

F. Oniga, A. Trif, and **S. Nedevschi**, “Stereovision for obstacle detection on smart mobile devices: First results”, in *Proceedings of 16th International IEEE Conference on Intelligent Transportation Systems (ITSC 2013)*, The Hague, Netherlands, 2013, p. 342–347.

A. Vatavu, R. Danescu, and **S. Nedevschi**, “Tracking multiple objects in traffic scenarios using free-form obstacle delimiters and particle filters”, in *Proceedings of 16th International IEEE Conference on Intelligent Transportation Systems (ITSC 2013)*, The Hague, Netherlands, 2013, p. 1346–1351.

A. Vatavu and **S. Nedevschi**, “Modeling unstructured environments with dynamic persistence grids and object delimiters in urban traffic scenarios”, in *Proceedings of 2013 IEEE Intelligent Vehicles Symposium (IV)*, Gold Coast City, Australia, June 23-26, 2013, 2013, p. 505–510.

A. Vatavu and **S. Nedevschi**, “Vision-based tracking of multiple objects in dynamic unstructured environments using free-form obstacle delimiters”, in *Proceedings of 2013 European Conference on Mobile Robots*, Barcelona, Catalonia, Spain, 2013, p. 367–372.

A. Costea, **S. Nedevschi**, “Word Channel Based Multiscale Pedestrian Detection Without Image Resizing and Using Only One Classifier”, *Proceedings of 2014 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, pp. 2393-2400, 2014.

A. Costea, **S. Nedevschi**, “Multi-class segmentation for traffic scenarios at over 50 FPS”, *Proceedings of 2014 IEEE Intelligent Vehicles Symposium*, Dearborn, (IV), USA, 2014, pp. 1390-1395,

R. Brehar, **S. Nedevschi**, “Scan Window Based Pedestrian Recognition Methods Improvement By Search Space And Scale Reduction”, *Proceedings of 2014 IEEE Intelligent Vehicles Symposium*, (IV), Dearborn, USA, 2014, pp. 529-534.

I. Giosan, **S. Nedevschi**, “Superpixel-based Obstacle Segmentation from Dense Stereo Urban Traffic Scenarios Using Intensity, Depth and Optical Flow Information”, *Proceedings of 2014 IEEE Intelligent Transportation Systems Conference (ITSC 2014)*, October 8-11, Qingdao, China, pp. 1662-1668.

M. Negru, **S. Nedevschi**, Ioan R. Peter, “Exponential Image Enhancement in Daytime Fog Conditions”, *Proceedings of 2014 IEEE Intelligent Transportation Systems Conference (ITSC 2014)*, October 8-11, Qingdao, China, pp. 1675-1681.

R. Brehar, **S. Nedevschi**, “Pedestrian Detection in Infrared Images Using HOG, LBP, Gradient Magnitude and Intensity Feature Channels”, *Proceedings of 2014 IEEE Intelligent Transportation Systems Conference (ITSC 2014)*, October 8-11, Qingdao, China, pp. 1669-1674.

A. Vatavu, R. Danescu, **S. Nedevschi**, “Modeling and Tracking of Crowded Traffic Scenes by using Policy Trees, Occupancy Grid Blocks and Bayesian Filters”, *Proceedings of 2014 IEEE Intelligent Transportation Systems Conference (ITSC 2014)*, October 8-11, Qingdao, China, pp. 1948-1955.

S. Nedevschi, M. Drulea, R. Varga, I.Szakats, A. Vatavu, “Stereovision systems for autonomous driving and autonomous logistics”, EU Robotics Forum, March 12-14, Rovereto, Italy, 2014.

A. Mayra, M. Aikio, K. Ojala, Sz. Mandici, A. Vatavu, **S. Nedevschi**, “Fisheye optics for omnidirectional stereo camera”, *Proceedings of 2015 IEEE ICCP*, Cluj-Napoca, pp. 225-230.

Sz. Mandici, **S. Nedevschi**, “Probabilistic Inverse Sensor Model based Digital Elevation Map Creation for an Omnidirectional Stereovision System”, *Proceedings of 2015 IEEE ICCP*, Cluj-Napoca, pp. 231-237.

C. Stimming, A. Krenzel, M. Boehning, A. Vatavu, Sz. Mandici, **S. Nedevschi**, “Multi-level On-board Data Fusion for 2D Safety Enhanced by 3D Perception for AGVs”, *Proceedings of 2015 IEEE ICCP*, Cluj-Napoca, pp. 239-244.

R. Varga, A. Costea, **S. Nedevschi**, “Improved Autonomous Load Handling with Stereo Cameras”, *Proceedings of 2015 IEEE ICCP*, Cluj-Napoca, pp. 251-255.

V. Miclea, C. Vancea, **S. Nedevschi**, “New Sub-Pixel Interpolation Functions for Accurate Real-Time Stereo-Matching Algorithms”, *Proceedings of 2015 IEEE ICCP*, Cluj-Napoca, pp. 173-178.

A. Petrovai, R. Danescu, **S. Nedevschi**, "A stereovision based approach for detecting and tracking lane and forward obstacles on mobile devices", *Proceedings of 2015 IEEE Intelligent Vehicles Symposium (IV)*, June 28 - July 1, 2015, COEX, Seoul, Korea, pp. 634-641.

A. Costea, A. Vatavu, **S. Nedevschi**, "Obstacle Localization and Recognition for Autonomous Forklifts using Omnidirectional Stereovision", *Proceedings of 2015 IEEE Intelligent Vehicles Symposium (IV)*, June 28 - July 1, 2015, COEX, Seoul, Korea, pp. 531-536.

A. Vatavu, A. Costea, **S. Nedevschi**, Modeling and Tracking of Dynamic Obstacles for Logistic Plants using Omnidirectional Stereo Vision, *Proceedings of 2015 IEEE IROS*, pp. 3552-3558.

A. Costea, Andreea Valeria Vesa, **S. Nedevschi**, "Fast Pedestrian Detection for Mobile Devices", *Proceedings of 2015 ITSC*, Gran Canaria, Spain, pp. 2364 - 2369.

R. Varga, **S. Nedevschi**, "Robust Pallet Detection for Automated Logistics Operations", in *Proceedings of 11th Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*, Roma, Italy, 27-29 February, 2016, pp. 470-477.

I. Giosan, **S. Nedevschi**, "Superpixels in Pedestrian Detection from Stereo Images in Urban Traffic Scenarios", in *Proceedings of 11th Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*, Roma, Italy, 27-29 February, 2016, pp. 501-508.

A. Costea, **S. Nedevschi**, "Fast traffic scene segmentation using multi-range features from multi-resolution filtered and spatial context channels", *Proceedings of 2016 IEEE IV Symposium*, Goteborg, Sweden, 19-22 June, 2016, pp. 328-334.

C. Vancea, V. Miclea, **S. Nedevschi**, "Improving stereo reconstruction by sub-pixel correction using histogram matching" *Proceedings of of 2016 IEEE IV Symposium*, Goteborg, Sweden, 19-22 June, 2016, pp. 335 - 341.

A. Costea, **S. Nedevschi**, "Semantic Channels for Fast Pedestrian Detection", *Proceedings of 2016 IEEE Conference on Computer Vision and Pattern Recognition*, Las Vegas, USA, June, 2016, pp. 2360-2368.

C. Decean, **S. Nedevschi**, "Stereoscopic Scene Flow estimation with global motion prior", *Proceedings of 2016 IEEE ICCP*, Cluj-Napoca, Romania, 7-9 September 2016, pp. 199 - 206.

Sz. Mandici, **S. Nedevschi**, "Real-Time Multi-Resolution Digital Elevation Map Creation using the Sensor Model of a Stereovision Sensor", *Proceeding of 2016 IEEE ITSC*, Rio De Janeiro, Brazil, 1- 4 November, 2016, pp. 608-615.

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)*, 993-1002, 2017.

A Petrovai, AD Costea, S Nedevschi, "Semi-automatic image annotation of street scenes", *Proceedings of 2017 IEEE Intelligent Vehicles Symposium (IV)*, 448-455.

VC Miclea, S Nedevschi, "Semantic segmentation-based stereo reconstruction with statistically improved long range accuracy", *Proceedings of 2017 IEEE Intelligent Vehicles Symposium (IV)*, 1795-1802.

AD Costea, S Nedevschi, "Traffic scene segmentation based on boosting over multimodal low, intermediate and high order multi-range channel features", *Proceedings of 2017 IEEE Intelligent Vehicles Symposium (IV)*, 74-81.

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, best student paper award.

A.D. 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, pp. 3469-3475.

V. Miclea, **S. Nedevschi**, L. Miclea, "Real-Time Stereo Reconstruction Failure Detection and Correction Using Deep Learning", *Proceedings of 2018 IEEE Intelligent Transportation Systems Conference (ITSC)*, Maui, Hawaii, USA, November 4-7, 2018, pp. 1095-1102.

V. Miclea, **S. Nedevschi**, "Real-Time Semantic Segmentation-Based Depth Up Sampling Using Deep Learning", *Proceedings of 2018 IEEE Intelligent Vehicles Symposium (IV)*, Changzhou, China, June 26-30, 2018, pp. 300-306, best applicative paper.

A. Petrovai, S. Nedevschi, "Efficient Instance and Semantic Segmentation for Automated Driving", *Proceedings of 2019 IEEE Intelligent Vehicles Symposium (IV)*, Paris, France, June 9-12, 2019.