

CURRICULUM VITAE

LAZAROS NALPANTIDIS

November 2016

Last name:	Nalpantidis
First name:	Lazaros
Father's name:	Georgios
Date of birth:	September 12, 1980
Place of birth:	Thessaloniki, Greece
Nationality:	Hellenic (Greek)
Marital status:	Married with 2 children
 Work address:	 A.C. Meyers Vænge 15 2450 Copenhagen SV, Denmark
 Home address:	 Delta Park 30, 5TH. 2665 Vallensbæk Strand, Denmark
 Telephone:	 +45 9940 3036
Email address:	lanalpa@m-tech.aau.dk
Personal webpage:	http://homes.m-tech.aau.dk/lanalpa
ORCID:	0000-0002-3620-4123

POSITIONS HELD

12/2014 – today	Associate Professor in “Cognitive Robotics” Dept. of Mechanical and Manufacturing Engineering Aalborg University Copenhagen, Denmark.
7/2012 – 11/2014	Assistant Professor in “Robotics and Manufacturing Engineering” Dept. of Mechanical and Manufacturing Engineering Aalborg University Copenhagen, Denmark.
5/2011 – 6/2012	Postdoctoral Researcher Computer Vision and Active Perception Lab., Centre for Autonomous Systems, (group of Prof. Danica Kragic) Royal Institute of Technology (KTH), Stockholm, Sweden.

EDUCATION

7/2007 – 9/2010	Ph.D. in Robot Vision “Study and Implementation of Stereo Vision Systems for Robotic Applications” Supervisor: Prof. Antonios Gasteratos Department of Production & Management Engineering,
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Democritus University of Thrace, Greece.

10/2003 – 8/2005 M.Sc. (Honors) in Electronic Physics (Radioelectronics)
with specialization in Electronic Circuits Technology
Physics Department,
Aristotle University of Thessaloniki, Greece.
Degree Grade: 9.28 out of 10 .

9/1998 – 9/2003 B.Sc. in Physics
Physics Department,
Aristotle University of Thessaloniki, Greece.
Degree Grade: 7.62 out of 10 .

SPOKEN LANGUAGES

Greek	Excellent level,	Native language.
English	Excellent Level,	Certificate of Proficiency in English, University of Cambridge.
German	Basic Level,	Zertifikat Deutsch als Fremdsprache, Goethe-Institut.
Danish	Basic Level,	DU3 Modul 2.

RESEARCH

RESEARCH INTERESTS

- Cognitive Robotics
- Robot Learning
- Robot Vision
- Robotics in Manufacturing
- Intelligent and autonomous vision-equipped robots.
- Cognitive vision systems.
- Stereo vision.
- Vision algorithms for robotic applications (3D perception, scene reconstruction, image/object segmentation).
- Skill-based robot programming.

PUBLICATION LIST

(Publications featured in Web of Science are indicated with an asterisk “”)*

Journal papers:

- A14.*** V. Krüger, A. Chazoule, M. Crosby, A. Lasnier, M. R. Pedersen, F. Roida, L. Nalpantidis, R. Petrick, C. Toscano, and G. Veiga, “A vertical and cyber-physical integration of cognitive robots in manufacturing,” Proceedings of the IEEE, vol. 104, no. 5, pp. 1114–1127, 2016.
- A13.*** I. Kostavelis, E. Boukas, L. Nalpantidis, and A. Gasteratos, “Stereo based visual odometry for autonomous robot navigation,” International Journal of Advanced Robotic Systems, 2016.
- A12.*** M. R. Pedersen, L. Nalpantidis, R. S. Andersen, C. Schou, S. Bøgh, V. Krüger, and O. Madsen, “Robot skills for manufacturing: From concept to industrial

- deployment,” *Robotics and Computer-Integrated Manufacturing*, vol. 37, no. 282–291, 2015.
- A11.*** I. Kostavelis, L. Nalpantidis, E. Boukas, M. Rodrigalvarez, I. Stamoulias, G. Lentaris, D. Diamantopoulos, K. Siozios, D. Soudris, and A. Gasteratos, “SPARTAN: Developing a vision system for future autonomous space exploration robots,” *Journal of Field Robotics*, vol. 31, no. 1, pp. 107–140, 2014.
 - A10.*** I. Kostavelis, L. Nalpantidis, and A. Gasteratos, “Collision risk assessment for autonomous robots by offline traversability learning,” *Robotics and Autonomous Systems*, vol. 60, no. 11, pp. 1367–1376, 2012.
 - A9.*** D. Chrysostomou, A. Gasteratos, L. Nalpantidis, and G. C. Sirakoulis, “Multi-view 3D scene reconstruction using ant colony optimization techniques,” *Measurement Science and Technology*, vol. 23, no. 11, 2012.
 - A8.*** C. Smith, Y. Karayiannidis, L. Nalpantidis, X. Gratal, P. Qi, D. V. Dimarogonas, and D. Kragic, “Dual arm manipulation - a survey,” *Robotics and Autonomous Systems*, vol. 60, no. 10, pp. 1340–1353, 2012.
 - A7.*** L. Nalpantidis, G. C. Sirakoulis, and A. Gasteratos, “Non-probabilistic cellular automata-enhanced stereo vision simultaneous localisation and mapping (SLAM),” *Measurement Science and Technology*, vol. 22, no. 11, 2011.
 - A6.*** L. Nalpantidis and A. Gasteratos, “Stereovision-based fuzzy obstacle avoidance method,” *International Journal of Humanoid Robotics*, vol. 8, no. 1, pp. 169–183, 2011.
 - A5.*** L. Nalpantidis, A. Amanatiadis, G. C. Sirakoulis, and A. Gasteratos, “Efficient hierarchical matching algorithm for processing uncalibrated stereo vision images and its hardware architecture,” *IET Image Processing*, vol. 5, no. 5, pp. 481–492, 2011.
 - A4.*** L. Nalpantidis and A. Gasteratos, “Biologically and psychophysically inspired adaptive support weights algorithm for stereo correspondence,” *Robotics and Autonomous Systems*, vol. 58, pp. 457–464, 2010.
 - A3.*** L. Nalpantidis and A. Gasteratos, “Stereo vision for robotic applications in the presence of non-ideal lighting conditions,” *Image and Vision Computing*, vol. 28, pp. 940–951, 2010.
 - A2.*** L. Nalpantidis, G. C. Sirakoulis, and A. Gasteratos, “Review of stereo vision algorithms: from software to hardware,” *International Journal of Optomechatronics*, vol. 2, no. 4, pp. 435–462, 2008.
 - A1.*** G. Fikos, L. Nalpantidis, and S. Siskos, “A compact APS with FPN reduction and focusing criterion using FGMOS photocell,” *Sensors and Actuators A:Physical*, vol. 147, pp. 419–424, October 2008.

Conference/Workshops papers:

- B48.*** F. Rovida, V. Krueger, L. Nalpantidis, A. Charzoule, A. Lasnier, R. Petrick, M. Crosby, C. Toscano, and G. Veiga, “A cyber-physical systems approach for controlling autonomous mobile manipulators,” in *Proceedings of the International Conference on Climbing and Walking Robots and Support Technologies for Mobile Machines (CLAWAR)*, (London, UK), pp. 169–177, 2016.
- B47.** A. S. Polydoros and L. Nalpantidis, “A reservoir computing approach for learning forward dynamics of industrial manipulators,” in *IEEE/RSJ*

- International Conference on Intelligent Robots and Systems (IROS), (Daejeon, Korea), 2016.
- B46.** T. Kounalakis, G. Triantafyllidis, and L. Nalpantidis, “Weed recognition framework for robotic precision farming,” in IEEE International Conference on Imaging Systems and Techniques, (Chania, Greece), 2016.
 - B45.*** A. S. Polydoros, B. Grossmann, F. Rovida, L. Nalpantidis, and V. Krüger, “Accurate and versatile automation of industrial kitting operations with SkiROS,” in 17th Conference Towards Autonomous Robotic Systems (TAROS), Lecture Notes in Computer Science, (Sheffield, UK), Springer-Verlag, 2016.
 - B44.** N. Rofalis, L. Nalpantidis, N. A. Andersen, and V. Krüger, “Vision-based robotic system for object agnostic placing operations,” in International Conference on Computer Vision Theory and Applications (VISAPP), (Rome, Italy), 2016.
 - B43.** A. S. Polydoros, L. Nalpantidis, and V. Krüger, “Advantages and limitations of reservoir computing on model learning for robot control,” in IROS Workshop on Machine Learning in Planning and Control of Robot Motion, (Hamburg, Germany), 2015.
 - B42.*** A. S. Polydoros, L. Nalpantidis, and V. Krüger, “Real-time deep learning of robotic manipulator inverse dynamics,” in IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), (Hamburg, Germany), 2015.
 - B41.** G. Lentaris, I. Stamoulias, D. Diamantopoulos, K. Maragos, K. Siozios, D. Soudris, M. A. Rodrigalvarez, M. Lourakis, X. Zabulis, I. Kostavelis, L. Nalpantidis, E. Boukas, and A. Gasteratos, “SPARTAN/SEXTANT/COMPASS: advancing space rover vision via reconfigurable platforms,” in 11th International Symposium on Applied Reconfigurable Computing (ARC), vol. 9040 of Lecture Notes in Computer Science, (Bochum, Germany), pp. 475–486, Springer, 2015.
 - B40.** B. Grossmann, M. R. Pedersen, J. Klonovs, D. Herzog, L. Nalpantidis, and V. Krüger, “Communicating unknown objects to robots through pointing gestures,” in 15th Conference Towards Autonomous Robotic Systems (TAROS), vol. 8717 of Lecture Notes in Computer Science, (Birmingham, UK), pp. 209–220, Springer-Verlag, 2014.
 - B39.** A. S. Polydoros, L. Nalpantidis, and V. Krüger, “Towards an intelligent robotic manipulator for industrial object-placing tasks,” in IAS International Workshop on Intelligent Robot Assistants, (Padova, Italy), 2014.
 - B38.** A. S. Polydoros, L. Nalpantidis, and V. Krüger, “A roadmap towards intelligent and autonomous object manipulation for assembly tasks,” in ICRA Workshop on “Autonomous Grasping and Manipulation: An Open Challenge”, (Hong Kong), 2014.
 - B37.*** L. Nalpantidis, D. Kragic, I. Kostavelis, and A. Gasteratos, “Theta-disparity: an efficient representation of the 3D scene structure,” in 13th International Conference on Intelligent Autonomous Systems (IAS), Lecture Notes in Computer Science, (Padova, Italy), 2014.
 - B36.** J. Klonovs, D. Herzog, M. R. Pedersen, B. Großmann, L. Nalpantidis, and V. Krüger, “Robotic system capable of identifying objects indicated by pointing gestures,” in Proceedings of the 2nd AAU Workshop on Robotics, (Aalborg, Denmark), AAU Press, 2014.
 - B35.** N. Skordilis, N. Vidakis, G. Triantafyllidis, and L. Nalpantidis, “Depth camera driven mobile robot for human localization and following,” in Proceedings of the 2nd AAU Workshop on Robotics, (Aalborg, Denmark), AAU Press, 2014.

- B34.** R. S. Andersen, L. Nalpantidis, V. Krüger, O. Madsen, and T. B. Moeslund, "Using robot skills for flexible reprogramming of pick operations in industrial scenarios," in *International Conference on Computer Vision Theory and Applications (VISAPP)*, vol. 3, (Lisbon, Portugal), pp. 678–685, 2014.
- B33.** M. R. Pedersen, L. Nalpantidis, A. Bobick, and V. Krüger, "On the integration of hardware-abstracted robot skills for use in industrial scenarios," in *IROS Workshop on "Cognitive Robotics Systems: Replicating Human Actions and Activities"*, (Tokyo, Japan), 2013.
- B32.*** I. Kostavelis, E. Boukas, L. Nalpantidis, and A. Gasteratos, "Visual odometry for autonomous robot navigation through efficient outlier rejection," in *IEEE International Conference on Imaging Systems and Techniques*, (Beijing, China), IEEE, October 2013.
- B31.*** L. Nalpantidis, B. Großmann, and V. Krüger, "Fast and accurate unknown object segmentation for robotic systems," in *International Symposium on Visual Computing (ISVC)*, vol. 8034 of *Lecture Notes in Computer Science*, (Rethymnon, Greece), Springer, July 2013.
- B30.** G. Lentaris, D. Diamantopoulos, K. Siozios, I. Stamoulias, I. Kostavelis, E. Boukas, L. Nalpantidis, D. Soudris, A. Gasteratos, and M. A. Aviles, "SPARTAN: efficient implementation of computer vision algorithms for autonomous rover navigation," in *7th HiPEAC Workshop on Reconfigurable Computing*, (Berlin, Germany), European Network of Excellence on High Performance and Embedded Architecture and Compilation, January 2013.
- B29.*** I. Kostavelis, A. Gasteratos, E. Boukas, and L. Nalpantidis, "Learning the terrain and planning a collision-free trajectory for indoor post-disaster environments," in *IEEE International Symposium on Safety, Security and Rescue Robotics*, (College Station, Texas, USA), November 2012.
- B28.*** L. Nalpantidis, M. Björkman, and D. Kragic, "Yes - yet another object segmentation: exploiting camera movement," in *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, (Vilamoura, Algarve, Portugal), 2012.
- B27.*** I. Kostavelis, E. Boukas, L. Nalpantidis, and A. Gasteratos, "Path tracing on polar depth maps for robot navigation," in *Cellular Automata for Research and Industry (ACRI)*, vol. 7495 of *Lecture Notes in Computer Science*, (Santorini, Greece), pp. 395–404, 2012.
- B26.** E. Boukas, I. Kostavelis, L. Nalpantidis, and A. Gasteratos, "Graph based localisation refinement by orbital images," in *International Symposium on Artificial Intelligence, Robotics and Automation in Space*, (Turin, Italy), 2012.
- B25.** I. Kostavelis, L. Nalpantidis, and A. Gasteratos, "Object recognition using saliency maps and HTM learning," in *IEEE International Conference on Imaging Systems and Techniques*, (Manchester, United Kingdom), 2012.
- B24.*** I. Kostavelis, E. Boukas, L. Nalpantidis, A. Gasteratos, and M. Aviles Rodrigalvarez, "SPARTAN system: Towards a low-cost and high-performance vision architecture for space exploratory rovers," in *2nd International Workshop on Computer Vision in Vehicle Technology: From Earth to Mars, in conjunction with ICCV*, (Barcelona, Spain), November 2011.
- B23.** M. Aviles, K. Siozios, D. Diamantopoulos, L. Nalpantidis, I. Kostavelis, E. Boukas, D. Soudris, and A. Gasteratos, "A co-design methodology for implementing computer vision algorithms for rover navigation onto

- reconfigurable hardware,” in *FPL 2011 workshop on Computer Vision on Low-Power Reconfigurable Architectures*, (Chania, Greece), September 2011.
- B22.** I. Kostavelis, L. Nalpantidis, and A. Gasteratos, “Supervised traversability learning for robot navigation,” in *12th Conference Towards Autonomous Robotic Systems*, vol. 6856 of *Lecture Notes in Computer Science*, (Sheffield, UK), pp. 289–298, Springer-Verlag, 2011.
- B21.** K. Siozios, D. Diamantopoulos, I. Kostavelis, E. Boukas, L. Nalpantidis, D. Soudris, A. Gasteratos, M. Aviles, and I. Anagnostopoulos, “SPARTAN project: Efficient implementation of computer vision algorithms onto reconfigurable platform targeting to space applications,” in *6th International Workshop on Reconfigurable Communication-centric Systems-on-Chip*, (Montpellier, France), pp. 1–9, June 2011.
- B20.** L. Nalpantidis, J. Kalomiros, and A. Gasteratos, “Robust 3D vision for robots using dynamic programming,” in *IEEE International Conference on Imaging Systems and Techniques*, (Batu Ferringhi, Penang, Malaysia), pp. 89–93, May 2011.
- B19.** D. Chrysostomou, L. Nalpantidis, and A. Gasteratos, “Lighting compensating multiview stereo,” in *IEEE International Conference on Imaging Systems and Techniques*, (Batu Ferringhi, Penang, Malaysia), pp. 176–179, May 2011.
- B18.** L. Nalpantidis, G. C. Sirakoulis, A. Carbone, and A. Gasteratos, “Computationally effective stereovision SLAM,” in *IEEE International Conference on Imaging Systems and Techniques*, (Thessaloniki, Greece), pp. 453–458, July 2010.
- B17.** I. Kostavelis, L. Nalpantidis, and A. Gasteratos, “Comparative presentation of real-time obstacle avoidance algorithms using solely stereo vision,” in *IARP/EURON International Workshop on Robotics for risky interventions and Environmental Surveillance-Maintenance*, (Sheffield, UK), January 2010.
- B16.*** L. Nalpantidis, D. Chrysostomou, and A. Gasteratos, “Obtaining reliable depth maps for robotic applications with a quad-camera system,” in *International Conference on Intelligent Robotics and Applications*, vol. 5928 of *Lecture Notes in Computer Science*, (Singapore), pp. 906–916, Springer-Verlag, December 2009.
- B15.*** L. Nalpantidis, I. Kostavelis, and A. Gasteratos, “Stereovision-based algorithm for obstacle avoidance,” in *International Conference on Intelligent Robotics and Applications*, vol. 5928 of *Lecture Notes in Computer Science*, (Singapore), pp. 195–204, Springer-Verlag, December 2009.
- B14.** Y. Baudoin, D. Doroftei, G. De Cubber, S. A. Berrabah, C. Pinzon, F. Warlet, J. Gancet, E. Motard, M. Ilzkovitz, L. Nalpantidis, and A. Gasteratos, “View-Finder: Robotics assistance to fire-fighting services and crisis management,” in *IEEE International Workshop on Safety, Security, and Rescue Robotics*, (Denver, Colorado, USA), pp. 1–6, November 2009.
- B13.** I. Kostavelis, L. Nalpantidis, and A. Gasteratos, “Real-time algorithm for obstacle avoidance,” in *Third Panhellenic Scientific Student Conference on Informatics*, (Corfu, Greece), September 2009.
- B12.*** L. Nalpantidis, A. Amanatiadis, G. C. Sirakoulis, N. Kyriakoulis, and A. Gasteratos, “Dense disparity estimation using a hierarchical matching technique from uncalibrated stereo vision,” in *IEEE International Workshop on Imaging Systems and Techniques*, (Shenzhen, China), pp. 427–431, May 2009.

- B11.** G. De Cubber, D. Doroftei, L. Nalpantidis, G. C. Sirakoulis, and A. Gasteratos, "Stereo-based terrain traversability analysis for robot navigation," in *IARP/EURON Workshop on Robotics for Risky Interventions and Environmental Surveillance*, (Brussels, Belgium), 2009.
- B10.*** L. Nalpantidis, G. C. Sirakoulis, and A. Gasteratos, "A dense stereo correspondence algorithm for hardware implementation with enhanced disparity selection," in *5th Hellenic conference on Artificial Intelligence*, vol. 5138 of *Lecture Notes in Computer Science*, (Syros, Greece), pp. 365–370, Springer-Verlag, 2008.
- B9.** G. De Cubber, L. Nalpantidis, G. C. Sirakoulis, and A. Gasteratos, "Intelligent robots need intelligent vision: Visual 3D perception," in *IARP/EURON Workshop on Robotics for Risky Interventions and Environmental Surveillance*, (Benicàssim, Spain), 2008.
- B8.** L. Nalpantidis, G. C. Sirakoulis, and A. Gasteratos, "Review of stereo matching algorithms for 3D vision," in *16th International Symposium on Measurement and Control in Robotics*, (Warsaw, Poland), pp. 116–124, 2007.
- B7.*** I. Pappas, L. Nalpantidis, V. Kalenteridis, S. Siskos, A. A. Hatzopoulos, and C. A. Dimitriadis, "A threshold voltage variation cancellation technique for analogue peripheral circuits of a display array using poly-Si TFTs," in *IEEE International Symposium on Circuits and Systems*, (Kos, Greece), May 2006.
- B6.*** G. Fikos, L. Nalpantidis, and S. Siskos, "A low-voltage, analog power-law function generator," in *IEEE International Symposium on Circuits and Systems*, (Kos, Greece), May 2006.
- B5.** I. Pappas, L. Nalpantidis, and S. Siskos, "A new analogue driver using poly-Si thin-film transistors for active matrix displays," in *XX Conference on Design of Circuits and Integrated Systems*, (Lisboa, Portugal), November 2005.
- B4.*** I. Pappas, L. Nalpantidis, V. Kalenteridis, S. Siskos, C. A. Dimitriadis, and A. A. Hatzopoulos, "A study of different types of current mirrors using polysilicon TFTs," in *Second Conference on Microelectronics, Microsystems and Nanotechnology*, vol. 10 of *Journal of Physics: Conference Series*, (Athens, Greece), pp. 373–376, November 2005.
- B3.*** A. A. Hatzopoulos, S. Siskos, C. A. Dimitriadis, N. Papadopoulos, I. Pappas, and L. Nalpantidis, "A built-in current sensor using thin-film transistors," in *Second Conference on Microelectronics, Microsystems and Nanotechnology*, vol. 10 of *Journal of Physics: Conference Series*, (Athens, Greece), pp. 289–292, November 2005.
- B2.** L. Nalpantidis, G. Fikos, and S. Siskos, "A low-voltage, low-power generalized power-law function generator," in *XX Conference on Design of Circuits and Integrated Systems*, (Lisboa, Portugal), November 2005.
- B1.*** G. Fikos, L. Nalpantidis, and S. Siskos, "A 32x32 smart photo-array with minimum-size FGMOS for amplification and FPN reduction," in *IEEE Workshop on Signal Processing Systems Design and Implementation*, (Athens, Greece), pp. 199–203, November 2005.

Books:

- C1.** L. Nalpantidis, V. Krüger, J.-O. Eklundh, and A. Gasteratos, eds., *Computer Vision Systems*, ICVS 2015, vol. 9163 of *Lecture Notes in Computer Science*. Springer, 2015.

Editorials:

- D1.*** L. Nalpantidis, R. Detry, D. Damen, G. Bleser, M. Cakmak, and M. S. Erden, "Cognitive Robotics Systems: Concepts and Applications," Guest Editorial, Journal of Intelligent and Robotic Systems, 2015.

Book chapters:

- E6.** L. Nalpantidis, "On the use of cellular automata in vision-based robot exploration," in Robots and Lattice Automata (G. C. Sirakoulis and A. Adamatzky, eds.), vol. 13 of Emergence, Complexity and Computation, ch. 11, pp. 247–266, Springer, 2015.
- E5.** K. Charalampous, I. Kostavelis, E. Boukas, A. Amanatiadis, L. Nalpantidis, C. Emmanouilidis, and A. Gasteratos, "Autonomous robot path planning techniques using cellular automata," in Robots and Lattice Automata (G. C. Sirakoulis and A. Adamatzky, eds.), vol. 13 of Emergence, Complexity and Computation, ch. 8, pp. 175–196, Springer, 2015.
- E4.** L. Nalpantidis, "Review of real-time stereo 3D imaging techniques," in Interactive Displays: Natural Human-Interface Technologies (A. K. Bhowmik, ed.), ISBN: 978-1-118-63137-9, ch. 6, Wiley-Blackwell, 2014.
- E3.** I. Kostavelis, E. Boukas, L. Nalpantidis, and A. Gasteratos, "A mechatronic platform for robotic educational activities," in Interdisciplinary Mechatronics: Engineering Science and Research Development (M. K. Habib and J. P. Davim, eds.), ISBN: 978-1-8482-1418-7, ch. 20, pp. 543–568, ISTE Wiley, 2013.
- E2.** L. Nalpantidis, I. Kostavelis, and A. Gasteratos, "Intelligent stereo vision in autonomous robot traversability estimation," in *Robotic Vision: Technologies for Machine Learning and Vision Applications* (M. A. Cazorla Quevedo and J. Garcia-Rodriguez, eds.), IGI Global, 2012.
- E1.** L. Nalpantidis and A. Gasteratos, "Stereo vision depth estimation methods for robotic applications," in *Depth Map and 3D Imaging Applications: Algorithms and Technologies* (A. S. Malik, T.-S. Choi, and H. Nisar, eds.), ISBN: 978-1-61350-326-3, ch. 21, pp. 397–417, IGI Global, 2011.

Theses:

- F3.** L. Nalpantidis, "Study and implementation of stereo vision systems for robotic applications", PhD thesis, Xanthi, 2010.
- F2.** L. Nalpantidis, "A design technique for power-law circuits", Master thesis, Thessaloniki, 2005.
- F1.** L. Nalpantidis, "Study and design of a photosensitive analogue circuit array using Floating Gate MOS Transistors (FGMOS)", Graduation thesis, Thessaloniki, 2003.

CITATIONS

Web of Science (results for "AUTHOR: (Nalpantidis L*)" on November 26, 2016)

Results found: 34

Sum of the Times Cited: 190

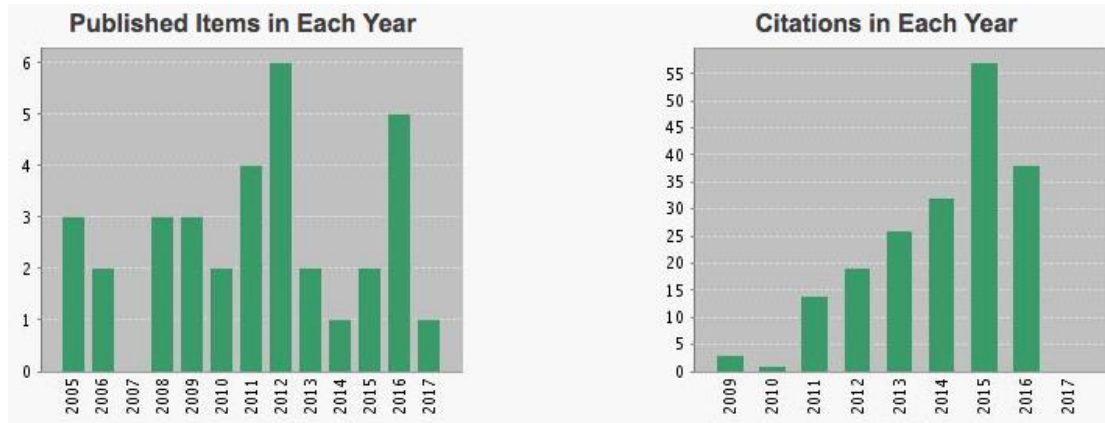
Sum of Times Cited without self-citations: 166

Citing Articles: 156

Citing Articles without self-citations: 143

Average Citations per Item: 5.59

h-index: 7



Scopus (results for "AUTHOR: Nalpantidis, Lazaros" on November 26, 2016)

Documents: 50

Citations: 402 total citations by 342 documents

h Index: 8

Google Scholar (results for "AUTHOR: Lazaros Nalpantidis" on November 26, 2016)

Results found: 74

Citations: 741

h-index: 12

i10-index: 16

PROJECT INVOLVEMENT & EXTERNAL FUND RAISING

PROJECT INVOLVEMENT

Principal Investigator:

1/2016 – today

Aalborg University Copenhagen, Denmark

Robotics, Vision and Machine Intelligence Lab.

Project: "The DockWeeder robot enables organic dairy farming by controlling grassland (DockWeeder), ICT-AGRI Call 2015 Enabling Precision Farming", funded by E.U. ICT-AGRI (E.C. FP7- 618123).

Description: Leading the research and development activities for robust weed detection in sequences of 2D images.

co-Principal Investigator:

10/2013 – today

Aalborg University Copenhagen, Denmark

Robotics, Vision and Machine Intelligence Lab.

Project: "Sustainable and Reliable Robotics for Part Handling in Manufacturing Automation (STAMINA), FP7-ICT-2013-10-610917", funded by the European Commission.

Description: Leading the research and development activities for single part feeding and visual inspection for manufacturing automation robots.

Post-Doctoral Researcher:

- 5/2011 – 6/2012 **Royal Institute of Technology (KTH), Stockholm, Sweden**
Centre for Autonomous Systems.
Computer Vision and Active Perception Laboratory.
Project: "Extending Sensorimotor Contingencies to Cognition (eSMCs), FP7-ICT-2009-6-270212", funded by the European Commission.
Description: Scientific research and development of cognitive vision systems for robots.
- 3/2011 – 4/2011 **Democritus University of Thrace**
Project: "Sparing Robotics Technologies for Autonomous Navigation (SPARTAN), E913-001MM", funded by the European Space Agency - ESA/ESTEC.
Description: Scientific research and development of vision algorithms and system for autonomous robot navigation.
- Researcher:**
3/2010 – 8/2010 **Democritus University of Thrace**
Project: "Innovative & Novel First Responders Applications (INFRA), FP7-ICT-SEC-2007-1-225272", funded by the European Commission - Information & Communications Technologies (ICT), (2009-2011).
Description: Scientific research and development of algorithms and architectures used for 3D navigation of mobile robots.
- 1/2009 – 12/2009 **Democritus University of Thrace**
Project: "Autonomous Collaborative Robots to Swing and Work in Everyday Environment (ACROBOTER), FP6-IST-2006-045530", funded by the European Commission - Information Society Technologies (IST).
Description: Scientific research for the study and construction of the ACROBOTER's vision system.
- 1/2008 – 6/2008 **Democritus University of Thrace**
Project: "Study of Stereo Vision Systems", Internal DUTH project.
Description: Scientific research for the study of stereo vision systems.
- 1/2007 – 12/2009 **Democritus University of Thrace**
Project: "Vision and Chemiresistor Equipped Web-connected Finding Robots (View-Finder), FP6-IST-2006-045541", funded by the European Commission - Information Society Technologies (IST).
Description: Scientific research for the development of algorithms and architectures used for 3D robot vision and data fusion.
- 10/2004 – 9/2005 **Aristotle University of Thessaloniki**

Project: “Design of Integrated Circuits using T.F.T.s” under the framework “PYTHAGORAS: Study and Development of T.F.T.s models – Design and Development of Li-ion batteries for their supply” funded by the Greek Ministry of National Education and Religious Affairs.

Description: Study and development of T.F.T.s analog circuits.

EXTERNAL FUNDING APPLICATIONS

Participation in Preparation of Funded Applications:

- **STAMINA** – “Sustainable and Reliable Robotics for Part Handling in Manufacturing Automation”
FP7-ICT-2013-10-610917, funded by the European Commission
 - *Role:* in charge of defining task T2.4
- **SPARTAN** – “Sparing Robotics Technologies for Autonomous Navigation”
E913-001MM, funded by the European Space Agency - ESA/ESTEC.
 - *Role:* in charge of defining the technical aspects of the considered vision system and vision algorithms.

TEACHING AND SUPERVISION

Formal Training:

2012 – 2014 Completed “University Pedagogy for Assistant Professors”
(Adjunktpædagogikum) course (10 ECTS)
Aalborg University, Denmark

COURSE DEVELOPMENT AND ORGANIZATION

Definition of course structure, development of course material and student projects under the Problem Based Learning (PBL) framework:

- Process Automation (MSc Level),
- Intelligent and Digital Manufacturing and Service Operations (MSc Level),
- Selected Topics in Robot Vision (PhD level),
- Introduction to Machine Learning and Selected Example Applications (PhD level).

Department of Mechanical & Manufacturing Engineering
Aalborg University Copenhagen, Denmark

Participation in the re-structuring of the Curriculum for the Master’s Programme in “Innovative Communication Technologies and Entrepreneurship (ICTE)” and definition of the course objectives, structure and material:

- Smart Sensor Data Processing (MSc level).

TEACHING EXPERIENCE

Courses Taught:

2015 – today Associate Professor

- Innovation Technology: Product Development and Product Service Design (5 ECTS, Bachelor level)

Manufacturing and Operations Engineering, Bachelor's Programme
 Department of Mechanical & Manufacturing Engineering
 Aalborg University Copenhagen, Denmark

- 2012 – today Assistant/Associate Professor
- Selected Topics in Robot Vision (5 ECTS, PhD level)
 - Introduction to Machine Learning and Selected Example Applications (5 ECTS, PhD level)
 - Intelligent and Digital Manufacturing and Service Operations (5 ECTS, MSc level)
 - Process Automation (5 ECTS, MSc level)
 - Manufacturing and Service Systems - Analysis and Design (15 ECTS, MSc level)
- Global System Design, Master's programme
 Department of Mechanical & Manufacturing Engineering
 Aalborg University Copenhagen, Denmark
- 2010 – 2011 Laboratory Associate
 Fall Semester – 12 hours/week
- Digital Circuits Laboratory (BSc level)
 - Computer Architecture Laboratory (BSc level)
- Department of Information & Communication Sciences
 Technological Educational Institute of Serres, Greece
- 2007 – 2010 Teaching Assistant
 Spring Semester – 9 hours/week
- Laboratory section of the course "Electronics" (BSc level)
- Department of Production & Management Engineering
 Democritus University of Thrace, Greece.

SUPRVISION EXPERIENCE

PostDoc supervision:

3/2016 – today Tsampikos Kounalakis, main Supervisor.

Ph.D. supervision:

- 11/2013 – today Athanasios Polydoros, main Supervisor
- 11/2013 – today Francesco Rovida, co-Supervisor (with Prof. V. Krueger)
- 1/2014 – today Bjarne Großmann, co-Supervisor (with Prof. V. Krueger)
- Robotics, Vision and Machine Intelligence Lab.
 Dept. of Mechanical and Manufacturing Engineering
 Aalborg University Copenhagen, Denmark
- 1/2012 – 6/2012 Virgile Högman, co-Supervisor (with Prof. D. Kragic)
- Centre for Autonomous Systems,
 School of Computer Science & Communications
 Royal Institute of Technology (KTH), Sweden

Graduation/Master theses' supervision:

- 2016 Stephane Lagier, MSs thesis, main Supervisor
"3D Printing injection mould tooling: Case study and experimentation"
Dept. of Mechanical and Manufacturing Engineering
Aalborg University Copenhagen, Denmark
- 2011 Vasiliki Argiropoulou, Supervision of the graduation thesis
"Development of application for QR code recognition in MATLAB"
Department of Information & Communication Sciences
Technological Educational Institute of Serres, Greece
- 2009 Ioannis Kostavelis, Assisting supervision of the diploma thesis
"Obstacle avoidance algorithm for robot navigation using a stereo camera"
Department of Production & Management Engineering
Democritus University of Thrace, Greece.

Student Project supervision:

- 2012 – today Supervision of several semester projects and mini-projects.
Global System Design, Master's programme
Department of Mechanical & Manufacturing Engineering
Aalborg University Copenhagen, Denmark

Pedagogical supervision:

- 2015 – today Department supervisor of Dr. Dimitris Chrysostomou,
Pedagogical Training for Assistant Professors 2015-2017
Aalborg University, Denmark

EXAMINER/CENSOR EXPERIENCE

Internal

- 2012 – today Examiner or Censor for multiple student projects
Global System Design Master's programme
Dept. of Mechanical and Manufacturing Engineering
Aalborg University Copenhagen, Denmark.

External

- 11/2016 PhD. Examination Committee of Caglar Aytekin,
Department of Signal Processing,
Tampere University of Technology, Finland.
- 7/2016 Ph.D. Examination Committee of Evangelos Boukas
Department of Production & Management Engineering,
Democritus University of Thrace, Greece.
- 6/2016 Ph.D. Examination Committee of Konstantinos Charalampous
Department of Production & Management Engineering
Democritus University of Thrace, Greece.

9/2015	Ph.D. Examination Committee of Stephane Lens Department of Electrical Engineering and Computer Science, University of Liege, Belgium
12/2015 - 6/2016	Censor for 3 Master Theses National Space Institute Technical University of Denmark (DTU), Denmark
5/2015	Censor for 1 Master Thesis Department of Electrical Engineering Technical University of Denmark (DTU), Denmark
6/2014 - 6/2016	Censor for 6 Master Theses Robot Systems Engineering Master's Programme The Mærsk Mc-Kinney Moller Institute University of Southern Denmark (SDU), Denmark
6/2016	Censor for master course "Robotics and Computer Vision 2" Advanced Robotics Technology Master's Programme The Mærsk Mc-Kinney Moller Institute University of Southern Denmark (SDU), Denmark

ACADEMIC AND MANAGERIAL ACTIVITIES

TALKS & SEMINARS

- "Vision algorithms for Weed Control within the DockWeeder Project",
2nd NJF-EurAgEng-Agromek Workshop Seminar on Advances and Innovations in
Agricultural Engineering, Herning, Denmark, 28 November 2016.
- "Robotic Technologies for Structural Health Monitoring",
Keynote Presentation at COST Action TU1402 5th workshop: "Quantifying the
Value of Structural Health Monitoring", Kgs Lyngby, Denmark, 25 August 2016.
- "Delivering Intelligent Robots for Real Applications - from labs to real
conditions",
The Mærsk Mc-Kinney Moller Institute, University of Southern Denmark (SDU),
Odense, Denmark, 13 May 2016.
- "Robotic Technologies for Structural Health Monitoring",
Department of Civil Engineering, Technical University of Denmark (DTU), Kgs
Lyngby, Denmark, 7 April 2016.
- "Stereo Vision for Future Autonomous Space Exploration Robots",
Dagstuhl Seminar "Vision for Autonomous Vehicles and Probes", Schloss
Dagstuhl, Germany, 10 November 2015.
- "STAMINA: developing a sustainable and reliable robotic system for industrial
part handling",
Department of Electrical Engineering, Technical University of Denmark (DTU),
Kgs Lyngby, Denmark, 8 May 2015.
- "Robots with vision and skills: Present and perspectives",

Physics Department Seminar, Aristotle University of Thessaloniki, Thessaloniki, Greece, 29 May 2013.

- “From Computer to Robotic Vision: just a step or a leap forward?”, Information Technologies Institute, Centre of Research and Technology Hellas, Thessaloniki, Greece, 30 May 2012.
- “Robot Vision”, New Technologies Section, IEK Xini, Thessaloniki, Greece, 5 April 2011.
- “Stereo Vision: adapting to Autonomous Robotics”, Computer Vision and Active Perception Lab., Royal Institute of Technology (KTH), Stockholm, Sweden, 4 February 2011.

MANAGERIAL TASKS

- **Management Representative** for the Department of Mechanical & Manufacturing Engineering in the Copenhagen campus, (2015 - today).
- **Department Representative** for Academic Staff (VIP) in the Copenhagen campus at the Working Environment Committee (AMIU), (2016 – today).
- **Coordinator** of the complete restructuring and accreditation process of the curriculum of the master program “Global Systems Design”, (2016-2017).

INDUSTIAL COLLABORATIONS

- COWI – Denmark.
- PSA - Peugeot Citroën Automobiles, France.
- BAS - BA Systemes, France.
- ESA/ESTEC - European Space Agency / European Space Research and Technology Center.
- GMV - GMV Aerospace and Defence, Spain.
- IES - Intelligence for Environment and Security, Italy.
- SAS - Space Applications Services, Belgium.

LEADERSHIP

- Principal Investigator (PI) in the Transnational funded research project DockWeeder
- Task Leader (Task 2.4) in the E.U. funded research project STAMINA

DISSEMINATION AND SCIENTIFIC ACTIVITIES

Organizer

- ICVS 2015 Conference, “10th International Conference on Computer Vision Systems (ICVS)”, Copenhagen, Denmark (July 2015).
- IROS 2013 Workshop, “Cognitive Robotics Systems: Replicating Human Actions and Activities (CRS 2013)”.
- IROS 2012 Workshop, “Cognitive Assistive Systems: Closing the Action-Perception Loop (CAS 2012)”.

Evaluator

- Italian Ministry for Education, University and Research (MIUR), “Evaluation of Research Projects of National Interest (PRIN 2015)”.

- Italian Research and University Evaluation Agency (ANVUR),
“Evaluation of Research Quality (VQR 2011-2014)”.
- Italian Ministry for Education, University and Research (MIUR),
“Evaluation of Research Projects of National Interest (PRIN 2012)”.
- Italian Research and University Evaluation Agency (ANVUR),
“Evaluation of Research Quality (VQR 2004-2010)”.

Editor

Journals

- **Associate Editor**,
Electronics Letters (IET), 2015-today
- **Associate Editor**,
“Vision Systems” topic
International Journal of Advanced Robotic Systems (INTECH), 2016-today
- **Guest Editor**,
Rising Star initiative,
International Journal of Advanced Robotic Systems (INTECH), 2015-2016
- **Guest Editor**,
Special Issue "Cognitive Robotics Systems: Concepts and Applications",
Journal of Intelligent & Robotic Systems (Springer), 2014-2015
- **Guest Editor in Chief** of Topic,
"Latest Trends in Mobile Robotic Research",
International Journal of Advanced Robotic Systems (INTECH), 2012-2013

International Conferences/Workshops

- **Associate Editor**,
IEEE International Conference on Robotics and Automation (ICRA 2015)
- **Associate Editor**,
IEEE International Conference on Robotics and Automation (ICRA 2014)

Committee Memberships

Journals

Editorial Board

- Electronics Letters (IET)
- International Journal of Advanced Robotic Systems (INTECH)

International Conferences/Workshops

General Chair

- 10th International Conference on Computer Vision Systems (ICVS 2015)

Publicity co-Chair

- International Conference on Modern Circuits and Systems Technologies (MOCAST 2016, 2017)

Program Committee

- International Conference on Modern Circuits and Systems Technologies (MOCAST 2015, 2016)
- IROS Workshop on Agri-Food Robotics (2015)
- International Conference on Intelligent Autonomous Systems (IAS 2014, 2016)

- IEEE Symposium on Safety, Security and Rescue Robotics (SSRR 2013, 2014, 2015, 2016)
- International Conference on Computer Vision Systems (ICVS 2013, 2015, 2017)
- Conference Towards Autonomous Robotic Systems (TAROS 2011, 2012, 2013)
- International Conference on Computer Vision Theory and Applications (VISAPP 2011, 2012, 2013, 2014, 2015, 2016, 2017)
- Computer Vision in Vehicle Technology: from Earth to Mars (CVVT:E2M 2011 in conjunction with ICCV 2011, 2012 in conjunction with ECCV 2012, 2013 in conjunction with ICCV 2013, 2014 in conjunction with ECCV 2014)
- International Conference on Intelligent Robotics and Applications (ICIRA 2011)

International Board & Technical Program Committee

- IEEE International Conference on Imaging Systems and Techniques (IST 2011, 2012)

International Program Committee

- International Conference on Control, Automation and Systems (ICCAS 2011, 2012)

Scientific Committee

- 6th International Conference on Sciences of Electronics, Technologies of Information and Telecommunications (SETIT 2011)

Reviewer

Journals

- International Journal of Robotics Research (SAGE)
- IEEE Robotics and Automation Magazine (IEEE)
- IEEE Transactions on Robotics (IEEE)
- IEEE Transactions on Automation Science and Engineering (IEEE)
- IEEE Transactions on Instrumentation & Measurement (IEEE)
- IEEE Transactions on Circuits and Systems for Video Technology (IEEE)
- Robotics and Autonomous Systems (Elsevier)
- Robotics and Computer Integrated Manufacturing (Elsevier)
- Computer Vision and Image Understanding (Elsevier)
- Pattern Recognition (Elsevier)
- Information Sciences (Elsevier)
- Mechatronics (Elsevier)
- Integration, the VLSI Journal (Elsevier)
- Advanced Robotics (Taylor & Francis)
- International Journal of Remote Sensing (Taylor & Francis)
- IET Image Processing (IET)
- IET Computer Vision (IET)
- Electronics Letters (IET)
- Arabian Journal for Science and Engineering (Springer)
- Measurement Science and Technology (IOP)
- International Journal of Advanced Robotic Systems (INTECH)
- Journal of Electronic Imaging (SPIE)

- Sensor Review (Emerald)
- Sensors (MDPI)

International Conferences/Workshops

- IEEE International Conference on Industrial Technology (ICIT 2015)
- International Conference on Modern Circuits and Systems Technologies (MOCAST 2015, 2016)
- IROS Workshop on Agri-Food Robotics (2015)
- International Conference on Intelligent Autonomous Systems (IAS 2014, 2016)
- IEEE Symposium on Safety, Security and Rescue Robotics (SSRR 2013, 2014, 2015, 2016)
- IEEE International Conference on Robotics and Automation (ICRA 2013, 2017)
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2012, 2013, 2014, 2015, 2016)
- International Conference on Control, Automation and Systems (ICCAS 2012)
- IEEE-RAS International Conference on Humanoid Robots (Humanoids 2011)
- Conference Towards Autonomous Robotic Systems (TAROS 2011, 2012, 2013)
- International Conference on Computer Vision Theory and Applications (VISAPP 2011, 2012, 2013, 2014, 2015, 2016, 2017)
- Computer Vision in Vehicle Technology: from Earth to Mars (CVVT:E2M 2011 *in conjunction with ICCV 2011*, 2012 *in conjunction with ECCV 2012*, 2013 *in conjunction with ICCV 2013*)
- International Conference on Control, Automation and Systems (ICCAS 2011)
- International Conference on Sciences of Electronics, Technologies of Information and Telecommunications (SETIT 2011)
- International Conference on Intelligent Robotics and Applications (ICIRA 2011)
- IEEE International Conference on Imaging Systems and Techniques (IST 2010, 2011, 2012)
- International Conference on Computer Vision Systems (ICVS 2008, 2013, 2015, 2017)
- International Conference on Intelligent Systems and Control (ISC 2007)
- International Conference on Robotics and Applications (RA 2007)

Other Activities

- Invited Participant
Dagstuhl Seminar “Vision for Autonomous Vehicles and Probes”,
Schloss Dagstuhl, Germany, 2015.

PROFESSIONAL MEMBERSHIPS AND NETWORKS

- Member of IEEE.
- Member of the IEEE Robotics and Automation Society.
- Member of the IEEE Robotics and Automation Society's Technical Committee on Cognitive Robotics
- Member of the IEEE Robotics and Automation Society's Technical Committee on Computer & Robot Vision.
- Member of the IEEE Robotics and Automation Society's Technical Committee on Mobile Manipulation.
- Member of EUCog.
- President of the Union of the Postgraduate Students of the Physics Dept. of the Aristotle University of Thessaloniki, (2004 – 2005).

HONORS AND AWARDS

2005	Scholarship from I.K.Y. (State Foundation of Scholarships, Greece) for excellence within the M.Sc. program of Electronic Physics (Radioelectronics).
2003	Achieved second place of admission to the M.Sc. program of Electronic Physics (Radioelectronics).