

Dr. Konstantinos Bitsakos

Curriculum Vitae

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Work Experience

April 2010 - Present Inos Automation GmbH

Senior Engineer R&D department

Responsible for the development and extension of camera and laser based inline measurement products.

April 2007 - July 2008 Univ. of Maryland team for Semantic Robot Vision Challenge competition

Responsible for robot navigation, exploration and image acquisition.

Evolved SLAM code for 2.5 D map creation using a laser sensor on a PTU unit.

Developed algorithms for area exploration and good viewpoint selection.

Integrated image acquisition code to robot navigation.

May 1999 - Jan 2001 Unibrain S.A. Software Company (Greece)

R&D division

Software Architect, Developer and Support Engineer.

Co-developed a new software product (Fire-i API).

Evolved/supported an existing product (Fire API).

Developed a custom device driver and API for industrial pick and place machines.

Designed and implemented a software testing suite for IEEE 1394 network cards.

Research Interests

- Computer Vision and Robotics (Advisor: Prof. Yiannis Aloimonos, Co-advisor: Dr. Cornelia Fermüller)
 - Image Processing, Low level vision

- Active camera control for image segmentation
- Machine Learning and Optimization
- SLAM
- Scene segmentation into surfaces using multiple cues
- Biological Vision/Biologically inspired visual sensors and algorithms

Education

Jun 2004 - May 2010 PhD in Computer Science
University of Maryland, College Park

Sep 2002 - Jun 2004 MSc in Computer Science
University of Maryland, College Park
G.P.A. 4/4

Sep 1994 - Jan 2000 B.S. Electrical and Computer Engineering.
Department of Electrical Engineering
National Technical University of Athens
G.P.A 8.38/10

Sept 1991 - June 1994 1st High School of Vrilissia (Greece).
G.P.A. 19.3/20.

Graduate Courses

- CMSC828F Perceptual Robotics, Spring 2006, Grade A
- CMSC711 Computer Networks, Spring 2004, Grade A
- CMSC740 Advanced Computer Graphics, Spring 2004, Grade A
- CMSC651 Analysis of Algorithms, Fall 2003, Grade A
- CMSC451 Design and Analysis of Computer Algorithms, Fall 2003, Grade A
- CMSC421 Introduction of Artificial Intelligence, Fall 2003, Grade A
- CMSC733 Computer Processing of Pictorial Information, Spring 2003, Grade A
- CMSC722 Artificial Intelligence Planning, Spring 2003, Grade A
- CMSC712 Distributed Algorithms and Verification, Spring 2003, Grade A
- CMSC631 Program Analysis and Understanding, Fall 2002, Grade A
- CMSC420 Data Structures, Fall 2002, Grade A

Teaching Experience

- CMSC426 Image Processing, Spring 2004 (Teaching Assistant)
- CMSC420 Data Structures, Fall 2003 (Teaching Assistant)
- CMSC420 Data Structures, Spring 2003 (Teaching Assistant)
- CMSC311 Computer Architecture, Fall 2002 (Teaching Assistant)

Awards/Honors

- Team member of Univ. of Maryland team that took 3rd place in Semantic Robot Vision Challenge competition 2008.
- Team member of Univ. of Maryland team that took 2nd place in Semantic Robot Vision Challenge competition 2007.
- Graduate Research Assistantship from University of Maryland Institute for Advanced Computer Studies (UMIACS). [Fall 2004- Fall 2009]
- Graduate Teaching Assistantship from the department of Computer Science at University of Maryland, College Park. [Fall 2002- Spring 2003]
- Top 1% on the National Examination for University admission (Greece). [1994]
- Top 10% on the National High School Physics contest (Greece). [1993]
- Award for excellent performance in all years of High and Secondary School. [1988-1994]
- Award from the Municipality of Athens for having the 3rd higher grade on my Secondary School (Greece). [1988]

Publications

- K. Bitsakos, Y. Aloimonos and C. Fermüller, “An Experimental Study of Color-Based Segmentation Algorithms Based on the Mean-Shift Concept”, ECCV, pp. 506-519, 2010.
- Li Yi, K. Bitsakos, Y. Aloimonos and C. Fermüller, “Real-Time Shape Retrieval for Robotics Using Skip Tri-Grams”, IEEE IROS, pp. 4731-4738, 2009.
- K. Bitsakos, Li Yi, Hyoungjune Yi and C. Fermüller, “Bilateral Symmetry of Object Silhouettes under Perspective Projection”, IEEE ICPR, pp. 1-4, 2008.
- K. Bitsakos, J. Domke, C. Fermüller and Y. Aloimonos, “Measuring 1st Order Stretch with a Single Filter”, IEEE ICASSP, 2008.

- K. Bitsakos, Li Yi and C. Fermüller, "Combining Motion from Texture and Lines for Visual Navigation", IEEE IROS, pp. 232-239, 2007.
- K. Bitsakos and C. Fermüller, "Depth estimation using the compound eye of dipteran flies", Biological Cybernetics, 95, pp. 487-501, 2006.
- N. Swamy, N. Frangiadakis and K. Bitsakos, "A Distributed Algorithm for Constructing a Generalization of de Bruijn Graphs", Technical Report, 2006.
- K. Bitsakos, D. Tsoumakos, Y. Aloimonos and N. Roussopoulos, "A Framework for Distributed Human Tracking", in Proc. of Int. Conf. on Parallel and Distributed Processing Techniques and Applications (PDPTA'05), June 2005.
- C. Koutsikas, D. Staikos, K. Bitsakos, N. Papaspyrou and N. Malevris, "Testing a Communication Driver for the IEEE 1394 High Speed Serial Bus Standard", in Proc. of the 1st Int. Conf. on Practical Software Testing Techniques (PSTT 2000), pp. 1-12, Minneapolis, USA, September 20, 2000.

Language Proficiency

- Greek (Native)
- English (Fluent)
- French (Good)
- German (Basic)

Professional Activities

Peer Reviewer ICCV 2005, ECCV 2006, ICIP 2006, 3DPVT 2006, ICCV 2007, ACCV 2007, CVPR 2007, CVPR 2009, ICCV 2009

Programming Experience

Operating Systems: Unix, Linux, Windows (98, NT, 2000, XP, 7)

Programming Languages: C, C++, Java, Perl, LISP, Prolog, Ocaml, Python

Web: html, asp, vbscript

Tools: Matlab, SoftICE

Interests and Hobbies

- Reading; science fiction (A. Clark, I. Assimov, P. Dick); fantasy (J. R. Tolkien, G. R. R. Martin) and fiction (U. Eco) etc.
- Basketball, Running, Swimming, Biking, Triathlon, WuShu, Tennis
- Cinema
- Role Playing Games

Membership

- IEEE member.
- Vice President of University of Maryland, College Park, Hellenic Graduate Student Association (Digenis) for two consecutive years, 2003-2005. Member since 2002.
- Technical Chamber of Greece, since 2000.

References

Available upon request