

# Andrzej Pronobis

University of Washington  
Paul G. Allen School of Computer Science & Engineering  
185 E Stevens Way NE, Seattle, WA 98195

[www.pronobis.pro](http://www.pronobis.pro)  
pronobis@cs.washington.edu

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**RESEARCH INTERESTS** My research focuses on learning approaches that enable intelligent agents to perceive, explore, and understand large human environments in order to plan and execute complex tasks in collaboration with humans. I am particularly interested in goal-directed solutions that enable reasoning under uncertainty by fusing multi-modal information at different levels of abstraction. My goal is to build end-to-end systems that share autonomy with human users and learn by interacting with the real world.

**Research areas:** artificial intelligence, robotics, machine learning, deep learning, robot vision

**EXPERIENCE** **Research Associate, University of Washington, Seattle, WA** 2013–Present  
*Paul G. Allen School of Computer Science & Engineering*  
Research in robotics, machine learning, and human-robot interaction.  
Advisor: Rajesh P. N. Rao; Past Advisors: Dieter Fox, Maya Cakmak

**Senior Researcher, KTH Royal Institute of Technology, Stockholm, Sweden** 2016–Present  
*Robotics, Perception and Learning Lab*  
Part-time appointment. Advising researchers in machine learning.

**Head of Research, OculusAI Technologies, Stockholm, Sweden** 2011–2013  
*Startup developing mobile applications for vision-based product recognition*  
Research and development in computer vision and machine learning.  
Assembled and headed a team of four Ph.D. research scientists and two research engineers.

**Postdoctoral Researcher, KTH Royal Institute of Technology, Stockholm, Sweden** 2012  
*Robotics, Perception and Learning Lab*  
Part-time appointment. Designed and taught undergraduate and graduate courses.  
Advisor: Patric Jensfelt

**Ph.D. Student, KTH Royal Institute of Technology, Stockholm, Sweden** 2006–2011  
*Robotics, Perception and Learning Lab*  
Research in robotics, computer vision and machine learning.  
Advisors: Patric Jensfelt, Barbara Caputo, Henrik I. Christensen

**Research Assistant, Idiap Research Institute, Martigny, Switzerland** 2008  
*Institute affiliated with EPFL École Polytechnique Fédérale de Lausanne*  
Research in machine learning and computer vision.  
Advisor: Barbara Caputo

**Erasmus Student, KTH Royal Institute of Technology, Stockholm, Sweden** 2005  
*EU Erasmus International Student Exchange Programme*

**EDUCATION** **Ph.D. in Computer Science, KTH Royal Institute of Technology, Stockholm, Sweden** Dec 2011  
Thesis: “Semantic Mapping with Mobile Robots”  
Advisors: Patric Jensfelt, Barbara Caputo, Henrik I. Christensen

**M.Sc. in Computer Science, Silesian University of Technology, Gliwice, Poland** Jan 2006  
Double degree in computer science and electrical engineering. Graduated with highest marks.  
Thesis: “Indoor Place Recognition Using Support Vector Machines”  
Advisors: Barbara Caputo, Jacek Łęski

GRANTS AND  
AWARDS

**Research Grants**

- Swedish Research Council Project Grant for Junior Researchers* (PI) 2013  
Prestigious, nation-wide grant in natural and engineering sciences of  
**3,500,000 SEK (400,000 USD)** and acceptance rate of **2.5%**.
- Toyota Research Grant* (Co-PI) 2013  
Grant for postdoctoral research at the University of Washington (**85,000 USD**).

**Research Awards**

- Finalist for the *Google Best Paper Award* 2017  
*at the ICML Workshop on Principled Approaches to Deep Learning*  
Paper: “Library for Learning and Inference with Sum-Product Networks and TensorFlow”
- Postdoc Research Award*, University of Washington, Computer Science & Engineering 2014
- Shortlisted for the *2012 EURON Georges Giralt PhD Award* 2012  
Ph.D. thesis in the top nine Ph.D. theses in robotics in Europe.
- Finalist for the *ICRA Best Cognitive Robotics Paper Award* 2012  
Paper: “Large-scale Semantic Mapping and Reasoning with Heterogeneous Modalities”
- Winning robot in the *CogX Cognitive Robot Programming Competition* 2009

**Entrepreneurship Awards**

- Winning project in the *Excitera 2010 Innovation Challenge* 2010

**Sponsorship Grants**

- Google Research Sponsorship* 2017  
Sponsorship for organizing the ICML Workshop on Principled Approaches to Deep Learning.

**Fellowships**

- DIRAC (EU FP6 Integrated Project) Training Programme* Mar–Oct 2008  
Fellowship for research at the Idiap Research Institute.

**Undergraduate Scholarships**

- EU Erasmus Student Exchange Programme Scholarship* Jan–Sep 2005
- Scholarship for Academic Excellence*, Silesian University of Technology 2001–2005  
Rector’s List in both computer science and electrical engineering.

PROJECTS

- Planning by inference with probabilistic deep models 2018
- Conditional imitation learning for mobile robot navigation and exploration 2017–2018
- Generative, probabilistic deep models for semantic spatial understanding 2016–2017
- LibSPN - Library for learning and inference with Sum-Product Networks 2015–2017
- InfoBot - Mobile robot answering natural language questions about its environment 2013–2015
- Productify - Mobile application for vision-based apparel product recognition 2011–2013
- Dora (EU FP7 Project CogX) - Mobile robot actively filling gaps in its knowledge 2008–2013
- Active place and object search driven by semantic spatial knowledge 2010–2013
- Probabilistic, multi-modal semantic mapping for mobile robots 2009–2011
- Incremental learning for adaptive, multi-modal place classification 2006–2009
- Explorer (EU FP6 Project CoSy) - Mobile robot communicating about its environment 2006–2007

### In Preparation

- A. **Pronobis**, A. Ranganath, and R. P. N. Rao. “LibSPN: A Library for Learning and Inference with Sum-Product Networks and TensorFlow”. In: (*In Preparation for*) *Journal of Machine Learning Research (JMLR)* (2018).
- A. **Pronobis**, K. Zheng, K. Ariga, and R. P. N. Rao. “Cognitive rObot Localization Database”. In: (*In Preparation for*) *International Journal of Robotics Research (IJRR)* (2018).

### Peer-reviewed Journal Articles

- M. Hanheide, M. Göbelbecker, G. S. Horn, A. **Pronobis**, K. Sjöö, A. Aydemir, P. Jensfelt, C. Gretton, R. Dearden, M. Janicek, H. Zender, G.-J. Kruijff, N. Hawes, and J. L. Wyatt. “Robot Task Planning and Explanation in Open and Uncertain Worlds”. In: *Artificial Intelligence* 247 (2017).
- J. Martínez-Gómez, B. Caputo, M. Cazorla, H. I. Christensen, M. Fornoni, I. García-Varea, and A. **Pronobis**. “Where Are We After Five Editions?: Robot Vision Challenge, a Competition that Evaluates Solutions for the Visual Place Classification Problem”. In: *Robotics & Automation Magazine (RAM)* 22.4 (2015).
- A. Aydemir, A. **Pronobis**, M. Göbelbecker, and P. Jensfelt. “Active Visual Object Search in Unknown Environments Using Uncertain Semantics”. In: *Transactions on Robotics (T-RO)* 29.4 (2013).
- A. **Pronobis**, O. M. Mozos, B. Caputo, and P. Jensfelt. “Multi-modal Semantic Place Classification”. In: *International Journal of Robotics Research (IJRR)* 29.2-3 (2010).
- A. **Pronobis**, J. Luo, and B. Caputo. “The More You Learn, the Less You Store: Memory-controlled Incremental SVM for Visual Place Recognition”. In: *Image and Vision Computing (IMAVIS)* 28.7 (2010).
- A. **Pronobis**, B. Caputo, P. Jensfelt, and H. I. Christensen. “A Realistic Benchmark for Visual Indoor Place Recognition”. In: *Robotics and Autonomous Systems (RAS)* 58.1 (2010).
- J. L. Wyatt, A. Aydemir, M. Brenner, M. Hanheide, N. Hawes, P. Jensfelt, M. Kristan, G.-J. M. Kruijff, P. Lison, A. **Pronobis**, K. Sjöö, A. Vrečko, H. Zender, M. Zillich, and D. Skočaj. “Self-Understanding & Self-Extension: A Systems and Representational Approach”. In: *Transactions on Autonomous Mental Development (TAMD)* 2.4 (2010).
- A. **Pronobis** and B. Caputo. “COLD: COsy Localization Database”. In: *International Journal of Robotics Research (IJRR)* 28.5 (2009).

### Peer-reviewed Conference Papers

- K. Zheng, A. **Pronobis**, and R. P. N. Rao. “Learning Graph-Structured Sum-Product Networks for Probabilistic Semantic Maps”. In: *AAAI Conference on Artificial Intelligence (AAAI)*. 2018.
- A. **Pronobis** and R. P. N. Rao. “Learning Deep Generative Spatial Models for Mobile Robots”. In: *International Conference on Intelligent Robots and Systems (IROS)*. 2017.
- M. J.-Y. Chung\*, A. **Pronobis**\*, M. Cakmak, D. Fox, and R. P. N. Rao. “Autonomous Question Answering with Mobile Robots in Human-Populated Environments”. In: *International Conference on Intelligent Robots and Systems (IROS)*. 2016.
- M. J.-Y. Chung, A. **Pronobis**, M. Cakmak, D. Fox, and R. P. N. Rao. “Designing Information Gathering Robots for Human-Populated Environments”. In: *International Conference on Intelligent Robots and Systems (IROS)*. 2015.
- M. J.-Y. Chung, A. **Pronobis**, M. Cakmak, D. Fox, and R. P. N. Rao. “Exploring the Potential of Information Gathering Robots”. In: *International Conference on Human-Robot Interaction Extended Abstracts (HRI)*. 2015.

- J. Ekekrantz, **A. Pronobis**, J. Folkesson, and P. Jensfelt. “Adaptive Iterative Closest Keypoint”. In: *European Conference on Mobile Robots (ECMR)*. 2013.
- A. Pronobis** and P. Jensfelt. “Large-scale Semantic Mapping and Reasoning with Heterogeneous Modalities”. In: *International Conference on Robotics and Automation (ICRA)*. 2012.
- M. Göbelbecker, M. Hanheide, C. Gretton, N. Hawes, **A. Pronobis**, A. Aydemir, S. Kristoffer, and H. Zender. “Dora: A Robot that Plans and Acts Under Uncertainty”. In: *35th German Conference on Artificial Intelligence (KI)*. 2012.
- A. Pronobis** and P. Jensfelt. “Hierarchical Multi-Modal Place Categorization”. In: *European Conference on Mobile Robots (ECMR)*. 2011.
- A. Aydemir, M. Göbelbecker, **A. Pronobis**, K. Sjöo, and P. Jensfelt. “Plan-based Object Search and Exploration Using Semantic Spatial Knowledge in the Real World”. In: *European Conference on Mobile Robots (ECMR)*. 2011.
- M. Hanheide, C. Gretton, R. W. Dearden, N. A. Hawes, J. L. Wyatt, **A. Pronobis**, A. Aydemir, M. Göbelbecker, and H. Zender. “Exploiting Probabilistic Knowledge under Uncertain Sensing for Efficient Robot Behaviour”. In: *International Joint Conference on Artificial Intelligence (IJCAI)*. 2011.
- K. Sjöo, **A. Pronobis**, and P. Jensfelt. “Functional Topological Relations for Qualitative Spatial Representation”. In: *International Conference on Advanced Robotics (ICAR)*. 2011.
- A. Aydemir, K. Sjöo, J. Folkesson, **A. Pronobis**, and P. Jensfelt. “Search in the Real World: Active Visual Object Search Based on Spatial Relations”. In: *International Conference on Robotics and Automation (ICRA)*. 2011.
- A. Pronobis**, K. Sjöo, A. Aydemir, A. N. Bishop, and P. Jensfelt. “Representing Spatial Knowledge in Mobile Cognitive Systems”. In: *11th International Conference on Intelligent Autonomous Systems (IAS)*. 2010.
- A. Pronobis**, K. Sjöo, A. Aydemir, A. N. Bishop, and P. Jensfelt. “A Framework for Robust Cognitive Spatial Mapping”. In: *International Conference on Advanced Robotics (ICAR)*. 2009.
- A. Pronobis**, O. M. Mozos, and B. Caputo. “SVM-based Discriminative Accumulation Scheme for Place Recognition”. In: *International Conference on Robotics and Automation (ICRA)*. 2008.
- M. M. Ullah, **A. Pronobis**, B. Caputo, J. Luo, P. Jensfelt, and H. I. Christensen. “Towards Robust Place Recognition for Robot Localization”. In: *International Conference on Robotics and Automation (ICRA)*. 2008.
- H. Maboudi Afkham, A. Tavakoli Targhi, J.-O. Eklundh, and **A. Pronobis**. “Joint Visual Vocabulary For Animal Classification”. In: *International Conference on Pattern Recognition (ICPR)*. 2008.
- A. Pronobis** and B. Caputo. “Confidence-based Cue Integration for Visual Place Recognition”. In: *International Conference on Intelligent Robots and Systems (IROS)*. 2007.
- J. Luo, **A. Pronobis**, B. Caputo, and P. Jensfelt. “Incremental Learning for Place Recognition in Dynamic Environments”. In: *International Conference on Intelligent Robots and Systems (IROS)*. 2007.
- J. Luo, **A. Pronobis**, and B. Caputo. “SVM-based Transfer of Visual Knowledge Across Robotic Platforms”. In: *International Conference on Computer Vision Systems (ICVS)*. 2007.
- A. Pronobis**, B. Caputo, P. Jensfelt, and H. I. Christensen. “A Discriminative Approach to Robust Visual Place Recognition”. In: *International Conference on Intelligent Robots and Systems (IROS)*. 2006.

## Book Chapters

- A. Pronobis, P. Jensfelt, K. Sjöo, H. Zender, G.-J. M. Kruijff, O. M. Mozos, and W. Burgard. “Semantic Modelling of Space”. In: *Cognitive Systems*. Edited by H. I. Christensen, G.-J. M. Kruijff, and J. L. Wyatt. Volume 8. Cognitive Systems Monographs. Springer Berlin Heidelberg, 2010.
- K. Sjöo, H. Zender, P. Jensfelt, G.-J. M. Kruijff, A. Pronobis, N. Hawes, and M. Brenner. “The Explorer System”. In: *Cognitive Systems*. Edited by H. I. Christensen, G.-J. M. Kruijff, and J. L. Wyatt. Volume 8. Cognitive Systems Monographs. Springer Berlin Heidelberg, 2010.
- L. Xing and A. Pronobis. “Multi-cue Discriminative Place Recognition”. In: *Multilingual Information Access Evaluation Vol. II Multimedia Experiments*. Edited by C. Peters, B. Caputo, J. Gonzalo, G. J. F. Jones, J. Kalpathy-Cramer, H. Müller, and T. Tsirikika. Volume 6242. Lecture Notes in Computer Science. Springer, 2010.
- A. Pronobis, H. I. Christensen, and B. Caputo. “Overview of the ImageCLEF@ICPR 2010 Robot Vision Track”. In: *Recognizing Patterns in Signals, Speech, Images and Videos*. Edited by D. Únay, Z. Çataltepe, and S. Aksoy. Volume 6388. Lecture Notes in Computer Science. Springer Berlin Heidelberg, 2010.
- A. Pronobis and B. Caputo. “The Robot Vision Task”. In: *ImageCLEF*. Edited by H. Müller, P. Clough, T. Deselaers, and B. Caputo. Volume 32. The Information Retrieval Series. Springer Berlin Heidelberg, 2010.
- A. Pronobis, L. Xing, and B. Caputo. “Overview of the CLEF 2009 Robot Vision Track”. In: *Multilingual Information Access Evaluation Vol. II Multimedia Experiments*. Edited by C. Peters, B. Caputo, J. Gonzalo, G. J. F. Jones, J. Kalpathy-Cramer, H. Müller, and T. Tsirikika. Volume 6242. Lecture Notes in Computer Science. Springer, 2010.

## Peer-reviewed Workshop Papers

- A. Pronobis, A. Ranganath, and R. P. N. Rao. “LibSPN: A Library for Learning and Inference with Sum-Product Networks and TensorFlow”. In: *ICML 2017 Workshop on Principled Approaches to Deep Learning*. 2017.
- A. Pronobis, F. Riccio, and R. P. N. Rao. “Deep Spatial Affordance Hierarchy: Spatial Knowledge Representation for Planning in Large-scale Environments”. In: *RSS 2017 Workshop on Spatial-Semantic Representations in Robotics*. 2017.
- A. Pronobis and R. P. N. Rao. “Learning Deep Generative Spatial Models for Mobile Robots”. In: *RSS 2017 Workshop on Spatial-Semantic Representations in Robotics*. 2017.
- K. Zheng, A. Pronobis, and R. P. N. Rao. “Learning Semantic Maps with Topological Spatial Relations Using Graph-Structured Sum-Product Networks”. In: *IROS 2017 Workshop on Machine Learning Methods for High-Level Cognitive Capabilities in Robotics*. 2017.
- A. Pronobis, F. Riccio, and R. P. N. Rao. “Deep Spatial Affordance Hierarchy: Spatial Knowledge Representation for Planning in Large-scale Environments”. In: *ICAPS 2017 Workshop on Planning and Robotics*. 2017.
- J. Ekekrantz, A. Pronobis, J. Folkesson, and P. Jensfelt. “Enabling Efficient Registration using Adaptive Iterative Closest Keypoint”. In: *IROS 2013 Workshop on Planning, Perception and Navigation for Intelligent Vehicles*. 2013.
- C. Matuszek\*, A. Pronobis\*, L. Zettlemoyer, and D. Fox. “Combining World and Interaction Models for Human-Robot Collaborations”. In: *AAAI 2013 Workshop on Intelligent Robotic Systems*. 2013.
- G. Manno, A. Pronobis, and B. Rasolzadeh. “Productify - Product Recognition in the Wild”. In: *CVPR 2012 Vision Industry and Entrepreneur Workshop (VIEW)*. 2012.
- A. Pronobis and P. Jensfelt. “Multi-modal Semantic Mapping”. In: *RSS 2011 Workshop on Grounding Human-Robot Dialog for Spatial Tasks*. 2011.

- A. Aydemir, **A. Pronobis**, K. Sjöo, M. Göbelbecker, and P. Jensfelt. “Object Search Guided by Semantic Spatial Knowledge”. In: *RSS 2011 Workshop on Grounding Human-Robot Dialog for Spatial Tasks*. 2011.
- M. Göbelbecker, A. Aydemir, **A. Pronobis**, K. Sjöo, and P. Jensfelt. “A Planning Approach to Active Visual Search in Large Environments”. In: *AAAI 2011 Workshop on Automated Action Planning for Autonomous Mobile Robots (PAMR)*. 2011.
- A. Pronobis**, K. Sjöo, A. Aydemir, A. N. Bishop, and P. Jensfelt. “A Framework for Robust Cognitive Spatial Mapping”. In: *2009 Swedish Workshop on Autonomous Robots (SWAR)*. 2009.
- A. Pronobis** and B. Caputo. “The More you Learn, the Less you Store: Memory-Controlled Incremental SVM”. In: *ECCV 2006 2nd International Cognitive Vision Workshop (ICVW)*. 2006.

### Theses

- A. Pronobis**. “Semantic Mapping with Mobile Robots”. PhD thesis. KTH Royal Institute of Technology, 2011.
- A. Pronobis**. “Indoor Place Recognition Using Support Vector Machines”. Master’s thesis. KTH Royal Institute of Technology, 2005.

SOFTWARE	<i>LibSPN</i>	2017
	Library for learning and inference with Sum-Product Networks and TensorFlow. <a href="http://www.libspn.org">www.libspn.org</a>	
	<i>Semantics-Aware Robotic Assistant (SARA)</i>	2016
	Large, integrated software platform based on the Robot Operating System (ROS) for semantic spatial understanding on a mobile robot operating in large human environments. <a href="http://www.github.com/pronobis/sara">www.github.com/pronobis/sara</a>	
	<i>Productify</i>	2013
	Mobile application employing computer vision and machine learning for recognizing and discovering visually similar apparel products. <a href="http://www.pronobis.pro/projects/productify">www.pronobis.pro/projects/productify</a>	
DATASETS	<i>Dora Mobile Robot System: Categorical.SA and Conceptual.SA</i>	2012
	Software stacks implementing multi-modal semantic mapping for a mobile robot.	
	<i>LibCRFH</i>	2010
	Library implementing Composed Receptive Field Histogram image descriptors. <a href="http://www.pronobis.pro/software/libcrfh">www.pronobis.pro/software/libcrfh</a>	
DATASETS	<i>Explorer Mobile Robot System: Semantic Annotation of Space</i>	2009
	Software stack implementing multi-modal place categorization for a mobile robot. <a href="http://www.pronobis.pro/software/semantic-annotation-demo">www.pronobis.pro/software/semantic-annotation-demo</a>	
	Cognitive rObot Localization Database (COLD2)	2017
	<a href="http://www.coldb.org">www.coldb.org</a>	
DATASETS	COsy Localization Database (COLD1)	2009
	<a href="http://www.pronobis.pro/data/cold1">www.pronobis.pro/data/cold1</a>	
	Image Database for rObot Localization (IDOL)	2006
	<a href="http://www.pronobis.pro/data/idol">www.pronobis.pro/data/idol</a>	
DATASETS	Indoor Environment under Changing conditionS (INDECS)	2005
	<a href="http://www.pronobis.pro/data/indecs">www.pronobis.pro/data/indecs</a>	



ADVISING

**Co-advised Ph.D. Students**

<i>Junha Roh</i> , Ph.D. Student, UW	Apr 2017–Present
<i>Francesco Riccio</i> , Visiting Ph.D. Student, UW	Oct 2016–Apr 2017
<i>Michael Jae-Yoon Chung</i> , Ph.D. Candidate, UW	Jun 2014–Jun 2015
<i>Johan Ekekrantz</i> , Ph.D. Candidate, KTH	Jan 2012–Feb 2013
<i>Alper Aydemir</i> , Ph.D. 2012, KTH	Jul 2011–Nov 2012

**Advised M.Sc. and B.Sc. Theses**

<i>Kaiyu Zheng</i> , UW “Learning Large-Scale Semantic Maps with Sum-Product Networks” <b>Shortlisted for the UW CSE Best Senior Thesis Award.</b>	B.Sc. 2017
<i>Kousuke Ariga</i> , UW “Semi-Supervised Spatial Knowledge Transfer with Deep Generative Models” <b>Shortlisted for the UW CSE Best Senior Thesis Award.</b>	B.Sc. 2017
<i>Björgvin Ólafsson</i> , KTH, OculusAI “Partially Observable Markov Decision Processes for Faster Object Recognition”	M.Sc. 2016
<i>Andreas Bruse</i> , KTH, OculusAI “Exploiting Cloud Resources For Semantic Scene Understanding On Mobile Robots”	M.Sc. 2015
<i>Nima Behzad</i> , KTH “Modeling 3D Object Context”	M.Sc. 2013
<i>Nikolaus Demmel</i> , KTH “Detecting Novel Concepts in Semantic Mapping with Mobile Robots”	B.Sc. 2012
<i>André Susano Pinto</i> , KTH “Novelty Detection for Semantic Place Categorization”	M.Sc. 2011
<i>Li Xing</i> , KTH “Multi-cue Visual Place Classification for Mobile Robotic Systems”	M.Sc. 2010
<i>Muhammad Muneeb Ullah</i> , KTH “Vision-based Indoor Place Recognition using Local Features”	M.Sc. 2007
<i>Jie Luo</i> , KTH “Incremental Learning for Adaptive Visual Place Recognition in Dynamic Environments” <b>Best Master’s Thesis Award of the Swedish AI Society.</b>	M.Sc. 2007

TEACHING

<b>Instructor/Lecturer, KTH Royal Institute of Technology</b> <i>EL2310 Scientific Programming</i> Designed and taught a master level course consisting of 16 lectures, three lab sessions, and three individual projects per student.	2012
<b>Project Instructor, University of Washington</b> <i>CSE498 Research Projects</i> <i>CSE499 Reading and Research</i> Organized and taught a project course for 12 undergraduate students in robotics focusing on development of components of a mobile robot system.	2014–2017
<b>Project Instructor, KTH Royal Institute of Technology</b> <i>DD2463 Advanced Individual Course in Computer Science</i> Coordinated four individual student projects in computer science.	2009–2012

**Teaching Assistant, KTH Royal Institute of Technology** 2010, 2011  
*DD2425 Robotics and Autonomous Systems*  
 Course organized as a contest between groups of students designing, building, and programming mobile robots for search and rescue scenarios.

INVITED TALKS “Representing and Exploiting Semantic Spatial Knowledge in Robotics”. In: *IROS 2016 Workshop on Integrating Multiple Knowledge Representation and Reasoning Techniques in Robotics*. 2016.  
 “Semantic Perception and Mapping for Service Robots”. In: *ICRA 2012 Workshop on Semantic Perception and Mapping for Knowledge-enabled Service Robotics*. 2012.

ORGANIZED  
EVENTS

**Workshops**

*ICML 2017* Workshop on Principled Approaches to Deep Learning Aug 2017  
**The most popular workshop at ICML 2017 with the attendance of over 200 people.**  
[www.padl.ws](http://www.padl.ws)

3rd *ICRA* Workshop on Semantic Perception, Mapping, and Exploration May 2013  
[www.spme.ws/2013](http://www.spme.ws/2013)

2nd *IROS* Workshop on Active Semantic Perception Oct 2012  
[www.activeperception.org/2012](http://www.activeperception.org/2012)

2nd *ICRA* Workshop on Semantic Perception, Mapping, and Exploration May 2012  
[www.spme.ws/2012](http://www.spme.ws/2012)

1st *IROS* Workshop on Active Semantic Perception Oct 2011  
[www.activeperception.org/2011](http://www.activeperception.org/2011)

*IROS 2010* Robot Vision Workshop Oct 2010  
[www.robotvision.info](http://www.robotvision.info)

**Competitions**

ImageCLEF 2010 Robot Vision Challenge (3rd Edition) Feb 2010  
[www.imageclef.org/2010/robot](http://www.imageclef.org/2010/robot)

ICPR 2010 Robot Vision Contest (2nd Edition) Nov 2009  
[www.imageclef.org/2010/icpr/RobotVision](http://www.imageclef.org/2010/icpr/RobotVision)

ImageCLEF 2009 Robot Vision Challenge (1st Edition) Feb 2009  
[www.imageclef.org/2009/robot](http://www.imageclef.org/2009/robot)

SERVICE

**Editorial Appointments**

*Associate Editor*, 2018 International Conference on Robotics and Automation (ICRA) 2017

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

*Associate Editor*, Paladyn, Journal of Behavioral Robotics 2009–2010

**Program Committees**

ECCV 2014 Workshop on Consumer Depth Cameras for Computer Vision Sep 2014

AAAI 2014 Workshop on Artificial Intelligence and Robotics Jul 2014

AAAI Spring Symposium 2014: Qualitative Representations for Robots Mar 2014

**Conference Reviewing**

Robotics: Science and Systems (RSS), International Conference on Intelligent Robots and Systems (IROS), International Conference on Robotics and Automation (ICRA), European Conference on Mobile Robotics (ECMR)



**Journal Reviewing**

International Journal of Robotics Research (IJRR), Transactions on Robotics (T-RO), Robotics and Autonomous Systems (RAS), Autonomous Robots (AURO)

**Grant Reviewing**

University of Washington Royalty Research Fund 2015

**Chairing**

*Chair*, IROS session “RGBD Perception” 2017

*Co-chair*, IROS session “Deep Learning in Robotics and Automation” 2017

**Outreach**

*Coordinator*, Robotics session during the *UW High School Girls’ Summer Camp* 2014

LANGUAGES English (fluent)  
Polish (native)

PERSONAL INTERESTS Rock and ice climbing, training climbers, building custom robot hardware, contributing to open source software projects, classical music

REFERENCES Available upon request.