Prof. Dr. rer. nat. Marc Toussaint

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Born on 12.02.1974 in Wertheim am Main (Germany)

Scientific Career

Since 2012	Full Professor (W3), head of the Machine Learning and Robotics Lab, at University of Stuttgart, Germany
Since 2011	Coordinator of the DFG Priority Programme (Schwerpunktprogram) SPP 1527 Autonomous Learning
2010 - 2012	Assistant Professor (W1) for Machine Learning and Robotics at FU Berlin
2010 - 2012	Co-Speaker of the DFG graduate school Sensory Computation in Neural Systems
2007 - 2012	Head of the independent research group Machine Learning and Robotics (Emmy Noether Programme) before 10/2010 at TU Berlin, later at FU Berlin
2006 - 2007	Honda Research Institute: Guest scientist at the robotics department of HRI Europe, Offenbach (Dr. Christian Goerick, Prof. Dr. Edgar Körner)
2004 - 2006	University of Edinburgh: Postdoc (Emmy-Noether stipendiary) at the Institute for Adaptive and Neural Computation (Prof. Chris Williams) und the Institute for Perception, Action, and Behavior (Prof. Sethu Vijayakumar)
2000 - 2003	PhD at the Institute for Neuroinformatics, Ruhr-University Bochum, Germany
2000 - 2004	Research assistant at the Institute for Neuroinformatics, Ruhr-University Bochum, Germany
1994 - 1999	Studies in Physics, University of Cologne, Germany
1994 - 1996	Studies in Mathematics, University of Cologne, Germany

Scholarships, Awards and Faculty Functions

2013	Area Chair for R:SS (Robotic: Science and Systems Conf.)
2012	Best Paper Runner Up Award at the Robotics Systems and Science (R:SS)
Since 2011	Editorial Board member of Journal of AI Research (JAIR)
Since 2009	Steering Committee of IEEE Technical Committee on Robot Learning
2008	Best Paper Runner Up Award at the Conference on Uncertainty in Artificial Intelligence

2007	Best Paper Award at the Sixth International Conference on Machine Learning and Applications (ICMLA 2007)
2007	Emmy Noether fellowship for an independent research group from the German Research Foundation (DFG)
2004	Emmy Noether postdoc stipend from the DFG

Ten most important publications

* Publications jointly together with UoA-researchers involved within this IRTG

§ Publications jointly together with USTUTT-researchers involved within this IRTG

A) Published in publication outlets with scientific quality assurance and book publications:

1. Kumar, A.; Zilberstein, S.; Toussaint, M.: Probabilistic inference techniques for scalable multiagent decision making. Journal of Artificial Intelligence Research, 53, p. 223-270, 2015.
2. Jetchev, N.; Toussaint, M.: Fast motion planning from experience: Trajectory prediction for speeding up movement generation. Autonomous Robots, 34(1), p. 111-127, 2013.
3. Ivan, V.; Zarubin, D.; Toussaint, M.; Komura, T.; Vijayakumar, S.: Topology-based representations for motion planning and generalisation in dynamic environments with interactions. International Journal of Robotics Research, 32(9-10), p. 1151-1163, 2013.
4. Lang, L.; Toussaint, M.: Kersting, K.: Exploration in relational domains for model-based reinforcement learning. Journal of Machine Learning Research, 13, p. 3691-3734, 2012.
5. Lang, T.; Toussaint, M.: Planning with noisy probabilistic relational rules. Journal of Artificial Intelligence Research, 39, p. 1-49, 2010.
6. Vlassis, N.; Toussaint, M.; Kontes, G.; Piperidis, S.: Learning model-free robot control by a Monte Carlo EM algorithm. Autonomous Robots, 27(2), p. 123-130, 2009.

B) Other publications

7. Toussaint, M.: Logic-geometric programming: An optimization-based approach to combined task and motion planning. In Proc. of the Int. Joint Conf. on Artificial Intelligence (IJCAI 2015), 7 pages, 2015.
8. Rawlik, K.; Toussaint, M.; Vijayakumar, S.: On stochastic optimal control and reinforcement learning by approximate inference. In Int. Conf. on Robotics Science and Systems (R:SS 2012), 2012.
9. Lopes, M.; Lang, T.; Toussaint, M.: Exploration in model-based reinforcement learning by empirically estimating learning progress. In Neural Information Processing Systems (NIPS 2012), 9 pages, 2012.
10. Toussaint, M.: Robot trajectory optimization using approximate inference. In Proc. of the Int. Conf. on Machine Learning (ICML 2009), p. 1049-1056. ACM, 2009.

C) Patents

Supervised graduate students since graduation year 2011

No.	Last Name, First Name	Degree	Title of the dissertation	Duration of thesis
1	Zarubin, Dmitry	Dr. rer. nat.	Topology-based Representations for Hierarchical Motion Planning	2011 - 2014
2	Rawlik, Konrad	PhD	Approximate Inference Approaches to Stochastic Optimal Control	2009 - 2013
3	Dragiev, Stanio	Dr. rer. nat.	Fluent and robust grasping under uncertainty	2009 - 2014
4	Jetchev, Nikolay	Dr. rer. nat.	Planning and Exploration in Stochastic Relational Worlds	2008 - 2012
5	Lang, Tobias	Dr. rer. nat.	Planning and Exploration in Stochastic Relational Worlds	2008 - 2011

Most important research grants since 2011

No.	Research Project	Funding Period	Name(s) of the principal investigator(s)	Funding source and reference number
1	DFG project: The Physical Exploration Challenge: Robots Learning to Discover, Actuate, and Explore Degrees of Freedom in the World	2014 - 2017	Toussaint, M. Brock, O.	DFG - SPP 1527
2	3rdHand	2013 - 2017	Toussaint, M. and others	EU, FP7-ICT-2013-10610878
3	DFG-Großgeräte to finance a PR2 robot.	2013		DFG
4	DFG project: Relational exploration, learning and inference; Partner: Kristian Kersting	2011 - 2014	Toussaint, M. Kersting, K.	DFG - SPP 1527
5	TOMSY	2011 - 2014	Toussaint, M. and others	IST-FP7-Collaborative Project-270436