

# Daniel Tanneberg | M.Sc.

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## Education

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<b>Ph.D. Computer Science (ongoing)</b> <i>Machine Learning &amp; Robotics @ <a href="#">Intelligent Autonomous Systems Lab</a></i>	<b>TU Darmstadt</b> since Oct 2015
<b>Master of Science (with honors)</b> <i>Computer Science, Focus: Machine Learning   Minor: Biological Psychology</i> GPA: 1.12	<b>TU Darmstadt</b> 2013 – 2015
<b>Bachelor of Science</b> <i>Computer Science</i> GPA: 1.65	<b>TU Darmstadt</b> 2008 – 2013
<b>University qualification (german: Abitur)</b> <i>Data Processing Technology, Advanced courses: Maths &amp; 'Technical Science'</i> FINAL GRADE: 1.8	<b>BS Gelnhausen</b> 2007

## Research Interests

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**Machine Learning:** (Bio-inspired) Machine learning, (Memory enhanced) Neural Networks, Evolutionary Strategies, Life-long learning, Intrinsic Motivation, Large-scale Learning  
**Computational Neuroscience:** Information Processing, Learning and Motor Control in humans, Spiking Neural Networks, Synaptic Plasticity, Brain-Computer-Interfaces  
**Robotics:** Open-ended and autonomous learning, Imitation Learning, Reinforcement Learning

## Publications

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### Journal Publications

**Tanneberg, D.;** Peters, J.; Rueckert, E. (2019). Intrinsic Motivation and Mental Replay enable Efficient Online Adaptation in Stochastic Recurrent Networks, *Neural Networks*, 109, pp.67-80

van Hoof, H.; **Tanneberg, D.;** Peters, J. (2017). Generalized Exploration in Policy Search, *Machine Learning (MLJ)*

Rueckert, E.; Kappel, D.; **Tanneberg, D.;** Pecevski, D; Peters, J. (2016). Recurrent Spiking Networks Solve Planning Tasks, *Scientific Reports*, 6, 21142, Nature Publishing Group

### Conference Papers

**Tanneberg, D.;** Peters, J.; Rueckert, E. (2017). Efficient Online Adaptation with Stochastic Recurrent Neural Networks, *Proceedings of the International Conference on Humanoid Robots (HUMANOIDS)*

**Tanneberg, D.;** Peters, J.; Rueckert, E. (2017). Online Learning with Stochastic Recurrent Neural Networks using Intrinsic Motivation Signals, *Proceedings of the Conference on Robot Learning (CoRL)*

**Tanneberg, D.;** Paraschos, A.; Peters, J.; Rueckert, E. (2016). Deep Spiking Networks for Model-based Planning in Humanoids, *Proceedings of the International Conference on Humanoid Robots (HUMANOIDS)*

### Workshop & Symposium Abstracts

Sharma, D.; **Tanneberg, D.;** Grosse-Wentrup, M.; Peters, J.; Rueckert, E. (2016). Adaptive Training Strategies for BCIs, *Cyathlon Symposium*

Friess, T.; Fiebig, K.H.; Sharma, D.; Faber, N.; Hesse, T.; **Tanneberg, D.;** Peters, J.; Grosse-Wentrup, M. (2016). Personalized Brain-Computer Interfaces for Non-Laboratory Environments, *Cyathlon Symposium*

### Theses

**Tanneberg, D.** (2015). *Spiking Neural Networks Solve Robot Planning Problems*, Master Thesis  
(received the Hanns-Voith-Stiftungspreis Award 2017)

**Tanneberg, D.** (2013). *Minimax based Artificial Intelligences for Tourality*, Bachelor Thesis

### Reviewing

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2016: International Joint Conference on Artificial Intelligence (IJCAI)

2016: Frontiers in Computational Neuroscience

2016: Conference on Neural Information Processing Systems (NIPS)

2017: PLOS Computational Biology

2018: Neural Computation

2018: Robotics: Science and Systems (R:SS)

2018: Conference on Robot Learning (CoRL)

### Work & Additional Projects

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**Athena-Minerva Cyathlon Team**

*Cyathlon* BCI-Race team of TU Darmstadt & MPI-IS Tübingen

**Darmstadt / Tübingen**

since Apr 2015

**Research Assistant**

Department VIRTUAL AND AUGMENTED REALITY

**Fraunhofer IGD Darmstadt**

Feb 2010 – Oct 2015

**Student Project for the BUNDESWETTBEWERB INFORMATIK**

Development and maintenance of the competition portal and the development-tool for AI's

**TU Darmstadt**

Oct 2011 – Nov 2013