

Robert Pinsler

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RESEARCH INTERESTS

Machine Learning > Reinforcement Learning, Active Learning, Bayesian Deep Learning
Applications > Chemistry, Robotics

EDUCATION

PhD Candidate in Machine Learning, University of Cambridge Cambridge, UK
Advised by Prof. Carl E. Rasmussen and Dr. José Miguel Hernández-Lobato. 2017 – Present

MSc in Computer Science, TU Darmstadt Darmstadt, Germany
German GPA: 1.1. Passed with distinction. 2014 – 2017

- Thesis title: Data-Efficient Learning of Robotic Grasps From Human Preferences
- Machine Learning Summer School Arequipa, Peru (2016).
- Exchange semester, Nanyang Technological University, Singapore (2016).

BSc in Business Informatics, DHBW Mannheim Mannheim, Germany
German GPA: 1.5. Best 10% of the year. 2011 – 2014

PROFESSIONAL EXPERIENCE

Amazon, AWS AI Platform Berlin, Germany
Research Intern. Worked with Beyza Ermis, Giovanni Zappella and Cédric Archambeau. Jun 2020 – Sep 2020

- Worked on methods for data-efficient meta-learning

TU Darmstadt, Visual Inference Lab Darmstadt, Germany
Research Assistant. Worked with Jochen Gast and Prof. Stefan Roth. Sep 2016 – Feb 2017

- Worked on approach for simultaneously recovering foreground and background intensities in motion deblurring

TU Darmstadt, Intelligent Autonomous Systems Lab Darmstadt, Germany
Research Assistant. Worked with Takayuki Osa and Prof. Gerhard Neumann. Oct 2015 – Dec 2015

- Implemented interface for tracking sensor glove and replicated deep learning approaches for robotic grasping

SAP, Predictive Maintenance and Services Walldorf, Germany
MSc Intern, part-time. Worked with Prof. Markus Döhring. 2014 – 2015

- Performed data analysis, machine failure prediction and evaluation of large-scale sensor data

SAP Walldorf, Germany; Shanghai, China
Trainee, different departments. 2011 – 2014

- Developed tools for procurement, product recommendation and sensor data analysis

PUBLICATIONS

- [1] G. C. N. Simm, R. Pinsler, G. Csányi, and J. M. Hernández-Lobato, “Symmetry-aware actor-critic for 3D molecular design,” *ArXiv preprint arXiv:2011.12747*, 2020.
- [2] G. C. N. Simm*, R. Pinsler*, and J. M. Hernández-Lobato, “Reinforcement learning for molecular design guided by quantum mechanics,” in *ICML*, 2020.
- [3] R. Pinsler, J. Gordon, E. Nalisnick, and J. M. Hernández-Lobato, “Bayesian batch active learning as sparse subset approximation,” in *NeurIPS*, 2019.
- [4] R. Pinsler*, P. Karkus*, A. Kupcsik, D. Hsu, and W. S. Lee, “Factored contextual policy search with Bayesian optimization,” in *ICRA*, 2019.
- [5] R. Pinsler, R. Akrouf, T. Osa, J. Peters, and G. Neumann, “Sample and feedback efficient hierarchical reinforcement learning from human preferences,” in *ICRA*, 2018.
- [6] R. Pinsler, M. Maag, O. Arenz, and G. Neumann, “Inverse reinforcement learning of bird flocking behavior,” in *ICRA Swarms Workshop*, 2018.

INVITED TALKS

- [1] R. Pinsler, “Robot learning with an unknown reward function,” Hosted by Joachim Wabnig. Nokia Bell Labs, Cambridge, UK, 2018.
- [2] —, “Robot learning with an unknown reward function,” Hosted by Gerhard Neumann. University of Lincoln, Lincoln, UK, 2018.

HONORS AND AWARDS

- 2018 – Qualcomm Innovation Fellowship, finalist Europe
- 2017 – EPSRC iCASE PhD Studentship, partially funded by Nokia
- 2016 – KSB Foundation Travel Grant
- 2016 – Deutschlandstipendium

ACADEMIC ACTIVITIES

- 2020 – Reviewer, Neural Computation
- 2019 – Reviewer, ICRA 2020
- 2019 – Reviewer, NeurIPS 2019 Bayesian Deep Learning Workshop
- 2018 – Reviewer, IROS 2018

TEACHING EXPERIENCE

- 2020 – MPhil Thesis Supervisor, Ioannis Tsetis, University of Cambridge
- 2019 – MPhil Thesis Supervisor, Riccardo Barbano, University of Cambridge
- 2018 – Tutor, 3F3 Signal and Pattern Processing, University of Cambridge
- 2018 – Tutor, 3F8 Inference, University of Cambridge