

Robert Pinsler

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RESEARCH INTERESTS

Reinforcement Learning, Approximate Inference, Active Learning, Bayesian Deep Learning, 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

- 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

Intelligent Autonomous Systems Lab, TU Darmstadt Darmstadt, Germany
Thesis Student (Supervisors: Prof. Gerhard Neumann, Prof. Jan Peters) Feb 2017 – Aug 2017

- Thesis title: Data-Efficient Learning of Robotic Grasps From Human Preferences. Led to ICRA paper.

Visual Inference Lab, TU Darmstadt Darmstadt, Germany
Research Assistant (Supervisor: Prof. Stefan Roth) Sep 2016 – Feb 2017

- Derived and implemented a variational inference approach for simultaneously recovering foreground and background intensities in motion deblurring

Intelligent Autonomous Systems Lab, TU Darmstadt Darmstadt, Germany
Research Assistant (Supervisor: Prof. Gerhard Neumann) Oct 2015 – Dec 2015

- Implemented interface for tracking low-cost sensor glove
- Replicated deep learning approaches for robotic grasping

SAP Predictive Maintenance and Services, SAP SE Walldorf, Germany
MSc Intern, part-time (Supervisor: Prof. Markus Döhring) 2014 – 2015

- Performed data analysis, machine failure prediction and evaluation of large-scale sensor data for major companies
- Initiated and implemented scalable internal workflow for performing machine learning experiments

SAP SE Walldorf, Germany; Shanghai, China
Trainee 2011 – 2014

- Developed tools for procurement (sold to several major customers), product recommendation (won 3rd price at hackathon) and sensor data analysis (actively used internally)
- Led efforts to re-engineer a platform for internal knowledge exchange among trainees

PUBLICATIONS

- [1] G. C. N. Simm*, R. Pinsler*, and J. M. Hernández-Lobato (* equal contribution), “Reinforcement learning for molecular design guided by quantum mechanics,” *Preprint arXiv:2002.07717*, 2020.
- [2] R. Pinsler, J. Gordon, E. Nalisnick, and J. M. Hernández-Lobato, “Bayesian batch active learning as sparse subset approximation,” in *NeurIPS*, 2019.
- [3] R. Pinsler*, P. Karkus*, A. Kupcsik, D. Hsu, and W. S. Lee (* equal contribution), “Factored contextual policy search with Bayesian optimization,” in *ICRA*, 2019.
- [4] R. Pinsler, R. Akrou, T. Osa, J. Peters, and G. Neumann, “Sample and feedback efficient hierarchical reinforcement learning from human preferences,” in *ICRA*, 2018.
- [5] 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

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

SKILLS

Programming & Software: Python, Matlab, Java, R, PyTorch, Tensorflow, OptiTrack, v-rep
Languages: Fluent in German and English