

ENB Elite Master Program Neuroengineering (MSNE)

Invited Presentation

Prof. Dr. Patrick van der Smagt
 Director of Volkswagen Group AI Research Lab

Latent optimal control

Abstract: Control of multidimensional systems typically relies on accurately engineered models. Breaking this requirement is problematic with neural networks, as their Gaussian data assumptions typically do not hold. In my talk, I will demonstrate how this problem can be efficiently solved by combining latent variable models with specific type of optimal control. The theory is demonstrated on various simulated closed-loop control systems as well as on real hardware.



Biography: Patrick van der Smagt is director of the open-source Volkswagen Group AI Research Lab in Munich's Volkswagen Data Lab, focusing on probabilistic deep learning for time series modelling, optimal control, reinforcement learning, robotics, and quantum machine learning. He previously directed a lab as professor for machine learning and biomimetic robotics at the Technical University of Munich while leading the machine learning group at the research institute fortiss, and before founded and headed the Assistive Robotics and Bionics Lab at the DLR Oberpfaffenhofen. Quite a bit earlier, he did his PhD and MSc at Amsterdam's universities. Besides publishing numerous papers and patents on machine learning, robotics, and motor control, he has won a number of awards, including the 2013 Helmholtz-Association Erwin Schrödinger Award, the 2014 King-Sun Fu Memorial Award, the 2013 Harvard Medical School/MGH Martin Research Prize, and best-paper awards at machine learning and robotics conferences and journals. He is founding

chairman of a non-for-profit organisation for Assistive Robotics for tetraplegics and co-founder of various tech companies.

The Talk is hosted by Prof. Dr. Jakob Macke (Computational Neuroengineering)

Wednesday, January 16 2019, 09:45 a.m.

Arcisstrasse 21, 80333 Munich (Vorhoelzer Forum, room 5170)

Talk is Part of
 Neuroengineering Matinee
 Matinee starts 9:30
 Talk starts ~9:45

All talks in the MSNE Invited Speaker Series are open to students, staff, and members of the public. Attendance is free.

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