Curriculum Vitae

SJOERD VAN STEENKISTE

Dalle Molle Institute for Artificial Intelligence
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6928 Manno, Switzerland
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EDUCATION

PhD in Informatics (Artificial Intelligence), 2020 *(expected)*
Advisor: Prof. Dr. Jürgen Schmidhuber
Dalle Molle Institute for Artificial Intelligence, Switzerland

MSc *summa cum laude* in Artificial Intelligence, 2016
Thesis: "A Wavelet-based Encoding for Neuroevolution"
Advisor: Dr. Jan Koutník, Dr. Kurt Driessens
Maastricht University, Netherlands

MSc *summa cum laude* in Operations Research, 2015
Thesis: "Designing Balanced Parametrised Multiwavelets via Lossless Systems"
Advisor: Prof. Dr. Ir. Ralf Peeters
Maastricht University, Netherlands

BSc *cum laude* in Knowledge Engineering, 2013
Thesis: "Bootstrap Feature Selection for Decision Trees"
Advisor: Dr. Evgueni Smirnov
Maastricht University, Netherlands

INDUSTRIAL EXPERIENCE

Research Intern, Google Brain, 2018

Research Intern, NNAISENSE, 2016

Research Intern, AtonRa Partners, 2014

HONORS

NVAIL Pioneering Research Award, 2017.

Maastricht University Student Prize, 2016.

BEST PAPER AWARDS

Outstanding paper award (with M. Chang, K. Greff, and J. Schmidhuber), NIPS Workshop on Cognitively Informed Artificial Intelligence, 2017.

Best master thesis award in Operations Research, Department of Knowledge Engineering, Maastricht University, 2015.

Best bachelor thesis award (2^{nd}) in Knowledge Engineering, Department of Knowledge Engineering, Maastricht University, 2013.

GRANTS

Assisted in the preparation of grant proposal "NEUSYM" (SNF project 200021_192356), which was awarded to Jürgen Schmidhuber by the Swiss National Science Foundation, funded to the tune of 670'000 CHF (about 700K USD), 2020

PROFESSIONAL ACTIVITIES

Reviewer *ICML*: 2019 (top 5%), 2020; *NeurIPS*: 2019 (top 400)

Workshop Co-organizer, "Object-Oriented Learning: Perception, Representation, and Reasoning", *International Conference on Machine Learning (ICML)* 2020

REFEREED CONFERENCE PROCEEDINGS

Kirsch, L., **van Steenkiste, S.** & Schmidhuber, J. (2020). Improving Generalization in Meta Reinforcement Learning using Learned Objectives. *International Conference on Learning Representations (ICLR)* **Spotlight Presentation**

van Steenkiste, S., Locatello, F., Schmidhuber, J. & Bachem, O. (2019). Are Disentangled Representations Helpful for Abstract Visual Reasoning? *Advances in Neural Information Processing Systems (NeurIPS) 32*, Curran Associates.

van Steenkiste, S., Chang, M., Greff, K. & Schmidhuber, J. (2018). Relational Neural Expectation Maximization: Unsupervised Discovery of Objects and their Interactions. *International Conference on Learning Representations (ICLR)*

Greff, K.*, **van Steenkiste, S.*** & Schmidhuber, J. (2017). Neural Expectation Maximization. *Advances in Neural Information Processing Systems (NIPS) 30*, Curran Associates.

van Steenkiste, S., Koutník, J., Driessens K. & Schmidhuber, J. (2016). A Wavelet-based Encoding for Neuroevolution. *Proceedings of the Genetic and Evolutionary Computation Conference (GECCO)*, ACM.

** authors contributed equally*

REFEREED WORKSHOP PAPERS

van Steenkiste, S.*, Greff, K.* & Schmidhuber, J. (2019). A Perspective on Objects and Systematic Generalization in Model-Based RL. *ICML Workshop on Generative Modeling and Model-Based Reasoning for Robotics and AI.* **Oral Presentation**

Unterthiner, T.*, **van Steenkiste, S.***, Kurach, K., Marinier, R., Michalski, M. & Gelly, S. (2019). FVD: A new Metric for Video Generation. *ICLR Workshop on Deep Generative Models for Highly Structured Data.*

van Steenkiste, S., Kurach, K. & Gelly, S. (2018). A Case for Object Compositionality in Deep Generative Models of Images. *NeurIPS workshop on Modeling the Physical World: Learning, Perception, and Control & NeurIPS workshop on Relational Representation Learning.*

van Steenkiste, S., Chang, M., Greff, K. & Schmidhuber, J. (2017). Relational Neural Expectation Maximization. *NIPS workshop on Cognitively Informed Artificial Intelligence.* **Oral Presentation**

Greff, K.*, **van Steenkiste, S.*** & Schmidhuber, J. (2017). Neural Expectation Maximization. *ICLR Workshop.*

** authors contributed equally*

PRE-PRINTS

van Steenkiste, S., Kurach, K., Schmidhuber, J. & Gelly, S. (2019). Investigating Object Compositionality in Generative Adversarial Networks. *Under Review*

Unterthiner, T.*, **van Steenkiste, S.***, Kurach, K., Marinier, R., Michalski, M. & Gelly, S. (2018). Towards Accurate Generative Models of Video: A New Metric & Challenges.

PRESENTATIONS

"Incorporting Objects in Neural Networks" (2019), Max Planck Institute for Intelligent Systems (Tübingen)

"A Perspective on Objects and Systematic Generalization in Model-Based RL" (2019), ICML Workshop on Generative Modeling and Model-Based Reasoning for Robotics and AI

"Relational Neural Expectation Maximization" (2017), NIPS Workshop on Cognitively Informed Artificial Intelligence

"Symbol-like Representation Learning with Neural Expectation Maximization" (2017), Google Brain (Zürich office)