Simon Meister

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Research Interests

Deep Reinforcement Learning

My primary research goal is building intelligent systems to learn and act in complex environments. To this end, i am interested in deep reinforcement learning, and deep learning for sequential decision making in general. Currently, i am working on deep reinforcement learning for challenging strategy games (e.g. StarCraft II) at the Autonomous Systems Labs, TU Darmstadt.

Deep Learning

I am broadly interested in deep learning foundations and applications. Thus far, i have worked on end-to-end deep learning for computer vision, particularly for motion estimation [1] and object detection. In the future, i want to focus on advancing deep learning beyond perception-only tasks and researching more biologically plausible learning architectures and algorithms.

Education

2014–Present **B.Sc., Computer Science**, *Technische Universität Darmstadt*, Germany.
Expected graduation: March 2018

Future **M.Sc., Visual Computing**, *Technische Universität Darmstadt*, Germany.
Expected starting date: April 2018

Publications

Peer-Reviewed Conference Papers

[1] S. Meister, J. Hur, and S. Roth. UnFlow: Unsupervised Learning of Optical Flow with a Bidirectional Census Loss . In *AAAI Conference on Artificial Intelligence (AAAI)*, New Orleans, Louisiana, Feb. 2018. **Oral presentation**. Code.

Bachelor thesis

Motion R-CNN: Instance-level 3D Motion Estimation with Region-based CNNs. Code.

supervisors Professor Stefan Roth & M.Sc. Junhwa Hur

Projects

Deep Reinforcement Learning for StarCraft II. Code.

supervisors M.Sc. Filipe Veiga & Professor Jan Peters

Honors & Awards

2013 **Christian Ernst Neeff-Preis**, *Physikalischer Verein Frankfurt*.

Awarded for work on massively parallel physics simulation conducted during the "Jugend forscht" youth science competition (national level).

Technical Experience

Advanced	Python, NumPy, C, C++, TensorFlow, PyTorch, Linux, Git, JavaScript
Intermediate	LaTeX, CUDA, OpenGL, Matlab, Java, Clojure

Biographic Information

Languages	English (fluent), German (native)

Formative Courses

Technische Universität Darmstadt

Grading scheme: 1.0 (best) − 4.0 (pass)

Statistical Machine Learning (1.0), Computer Vision 1 (1.0), Project Lab Deep Learning for Computer Vision (1.0), Deep Learning for Natural Language Processing (1.7), Integrated Project Robot Learning (ongoing)

Online

Machine Learning, *Andrew Ng*, Stanford University.