

# 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 as well as neuromorphic computing.

## Education

2014–2018 **B.Sc., Computer Science**, *Technische Universität Darmstadt*, Germany.

## 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](#)

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## 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).

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## Technical Experience

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

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## Biographic Information

Languages English (fluent), German (native)

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## 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 (1.0)

Online

**Machine Learning**, Andrew Ng, [Stanford University](#).