Marijn Stollenga

Date of birth: 18 feb 1987
Ph.D. Candidate
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Education

May 2011 – Apr. 2016 (prospected) **Ph.D. Candidate**
IDSIA/SUPSI/USI, Lugano, Switzerland
Advisor: Prof. Jürgen Schmidhuber

Sept. 2008 – May 2011 **M.Sc., Artificial Intelligence (passed with honor)**
University of Groningen, Groningen, Netherlands
Thesis title: Using Guided Autoencoders on Face Recognition
Advisors: Dr. Marco Wiering, Prof. Lambert Schomaker

Sept. 2005 – Apr. 2008 **B.Sc., Artificial Intelligence (passed with honor)**
University of Groningen, Groningen, Netherlands
Thesis title: The Smart Meter: recognizing On- and Off events in energymeter-data
Advisor: Dr. Tjeerd Andringa

Publications

Stollenga, M.*, Byeon, W.*, Liwicki, M., and Schmidhuber, J. "Parallel Multi-Dimensional LSTM, With Application to Fast Biomedical Volumetric Image Segmentation" *Advances in Neural Information Processing Systems (NIPS), 2015*

Stollenga, M., Lockett, A., and Schmidhuber, J. "The Natural Gradient as a Control Signal for a Humanoid Robot" *IEEE-RAS International Conference on Humanoid Robots (HUMANOIDS), 2015*

Stollenga, M.*, Masci, J.*, Gomez, F., and Schmidhuber, J. "Deep networks with internal selective attention through feedback connections" *Advances in Neural Information Processing Systems (NIPS), 2014*

Stollenga, M., Schmidhuber, J., and Gomez F. "Rapid Humanoid Motion Learning through Coordinated, Parallel Evolution" *Simulation of Adaptive Behavior (SAB), 2014.*

Stollenga, M., Pape, L., Frank, M., Leitner, J., Förster, A., and Schmidhuber, J. "Task-Relevant Roadmaps" *Intelligent Robots and Systems (IROS), 2013.*

Kompella, V. R., **Stollenga, M.**, Luciw, M., and Schmidhuber, J. "Continual curiosity-driven skill acquisition from high-dimensional video inputs for humanoid robots" *Artificial Intelligence, 2015.*

Kompella, V. R., **Stollenga, M.**, Luciw, M., and Schmidhuber, J. "Explore to see, learn to perceive, get the actions for free: SKILLABILITY" *International Joint Conference on Neural Networks (IJCNN), 2014.*

Frank, M., Leitner, J., **Stollenga, M.**, Förster, A., and Schmidhuber, J. "Curiosity driven reinforcement learning for motion planning on humanoids." *Frontiers in Neurorobotics, 7(25), 2014.*

Wiering, M., Van der Ree, M., Embrechts, M., **Stollenga, M.**, Meijster, A., Nolte, A., and Schomaker, L. "The neural support vector machine" *Conference on Artificial Intelligence (BNAIC), 2013.*

Kompella, V. R., Luciw, M., **Stollenga, M.**, Pape, L., and Schmidhuber, J. "Autonomous Learning of Abstractions using Curiosity-Driven Modular Incremental Slow Feature Analysis" *In Development and Learning and Epigenetic Robotics (ICDL), 2012 IEEE International Conference.*

Srivastava, R. K., Steunebrink, B. R., **Stollenga, M.**, and Schmidhuber, J. "Continually adding self-invented problems to the repertoire: First experiments with POWERPLAY" *In Development and Learning and Epigenetic Robotics (ICDL), 2012 IEEE International Conference.*

Frank, M., Leitner, J., **Stollenga, M.**, Kaufmann, G., Harding, S., Förster, A., and Schmidhuber, J. "The modular behavioral environment for humanoids and other robots (MoBeE)" *In Intl. Conference on Informatics in Control, Automation and Robotics (ICINCO), 2012.*

Experience

Fall Sem. 2013 — **Teaching Assistant, Department of Informatics**
Universita della Svizzera Italiana, Lugano, Switzerland

Served as the teaching assistant for the course *Knowledge and Database Management: Artificial Intelligence*, helping about 15 students and grading assignments.

Fall Sem. 2012 — **Teaching Assistant, Department of Informatics**
Universita della Svizzera Italiana, Lugano, Switzerland

Served as the teaching assistant for the course *Intelligent Systems*, helping about 30 students and grading all assignments.

Spring Sem. 2010 — **Teaching Assistant, Department of Artificial Intelligence**
University of Groningen, Groningen, Netherlands

Served as the teaching assistant for the course *Neuro-Physics*, helping about 20 to 30 students (varying over the course), and grading all assignments. The course consisted mainly of understanding differential equations modelling neurons, and the bifurcations that arose when changing parameters in these systems.

Spring Sem. 2008 — **Practicum Assistant, Department of Artificial Intelligence**
University of Groningen, Groningen, Netherlands

Served as the practicum assistant for the course *Artificial Intelligence I*, helping students programming assignments.

Jan - Dec. 2008 — **Participating in the RoboCup (robot soccer league)**
University of Groningen, Groningen, Netherlands

Participated in the Humanoid Simulation League with about 8 students with the 'Little Green Bats' team. I was responsible for programming (in C++) higher level tactics like attacking and defending behaviors. Our team placed first in the intermediate league in Hannover, Germany, and third in the finals in Suzhou, China in 2008.

Selected Coursework

2012 - 2013 — **Graduate Courses**, *Universita della Svizzera Italiana*

Geometric Methods in Computer Vision and Pattern Recognition - Prof. M. Bronstein (grade 9.5/10)
Computational Stochastic Methods - Prof. I. Horenko (grade 9/10)
Computational Data-Analysis - Prof. I. Horenko (grade 9/10)

Sept. 2008 - May 2011 — **Master Courses**, *University of Groningen*

Machine Learning (grade 9/10)
Computer Vision (grade 9.5/10)
Scientific Visualisation (grade 9/10)
Handwriting (Script) Recognition
Sound Recognition
Neural Networks

Sept. 2005 - Apr. 2008 **Bachelor Courses**, *University of Groningen*

Mathematics A (grade 9.5/10)
Formal Logic (grade 10/10)

Awards

2013 **AAAI Shakey Award: Best Student Video**

Stollenga, M., Pape, L., Frank, M., Leitner, J., Förster, A., and Schmidhuber, J. "Task-Relevant Roadmaps: Demonstrations" *AAAI Video Competition 2013*, `http://youtu.be/N6x2e1Zf_yg`.

Computational Skills

Programming Languages

C/C++, Python (Theano), Matlab, Lua (Torch), LaTeX, Golang
CUDA / CuDNN (GPU programming)

Software and Operating Systems

Strong preference for the Linux/UNIX environment; extensively familiar with Windows and OSX operating systems.