Matthias Plappert

Curriculum Vitae

Education

2015–present **Computer Science (M.Sc.)**, *Karlsruhe Institute of Technology (KIT)*.
Focus on machine learning and robotics.
Current grade: *very good* (1.2)

2011–2015 **Computer Science (B.Sc.)**, *Karlsruhe Institute of Technology (KIT)*.
Focus on electrical engineering, cryptography, and machine learning.
Final grade: *good* (2.2)

Publications

Bachelor Thesis

Title *Classification of Human Whole-Body Motion using Hidden Markov Models*

Supervisors Prof. Dr.-Ing. Tamim Asfour & Prof. Dr.-Ing. Rüdiger Dillmann

Description This thesis presents approaches to solve the multi-label classification problem of human whole-body motion using Hidden Markov Models (HMMs).

`https://arxiv.org/abs/1605.01569`

Peer-reviewed Journals

2016 **M. Plappert**, C. Mandery, and T. Asfour, *The KIT Motion-Language Dataset*, Big Data, Vol. 4, No. 4, pp. 236–252

Peer-reviewed Conferences

2016 C. Mandery, **M. Plappert**, J. Borras, and T. Asfour, *Dimensionality Reduction for Whole-Body Human Motion Recognition*, 19th International Conference on Information Fusion (FUSION), pp. 355–362

Pre-prints

2017 **M. Plappert**, C. Mandery, and T. Asfour, *Learning a bidirectional mapping between human whole-body motion and natural language using deep recurrent neural networks*, arXiv preprint arXiv:1705.06400 (2017)

Experience

2017–present **Member of Technical Staff (Intern)**, *OpenAI Inc.*, San Francisco.
Apr. Research in machine learning with applications in robotics.

2015–2016 **Student Research Assistant**, *KIT*, Karlsruhe.
Oct.–Jun. Research in the areas of human motion analysis, dimensionality reduction of human motion, and deep reinforcement learning for applications in robotics. Development of various scientific tools to conduct the aforementioned research.

Uhlandstr. 35 – 76135 Karlsruhe – Germany
+49 151 68130448 • ☎ *+49 721 60900951*
✉ *matthiasplappert@me.com* • 🖥 *matthiasplappert.com*

2013–2015 May–Mar.	**iOS Software Engineer**, *PSPDFKit GmbH*, Karlsruhe/Vienna. Development of new features and maintenance of existing ones for the leading PSPDFKit framework for iOS. Work was conducted remotely together with an international team of more than 20 people, which required strong communication and organizational skills.
2012–2013 Oct.–Mar.	**iOS Software Engineer Intern**, *Square Inc.*, San Francisco. Conception and development of a hardware abstraction layer to integrate different peripherals into an iOS POS system. The integration required frequent communication and coordination with members of other teams like electrical engineering and product design.
2010–2011 Sept.–Feb.	**Alternative Civilian Service ("Zivildienst")**, *RKU*, Ulm. Support of paraplegic patients during treatment in rehabilitation.
2009 4 weeks	**Summer Intern**, *dmc - digital media GmbH*, Stuttgart. iOS software engineering and Scrum project management.

Projects

2016	**keras-rl**, *Deep Reinforcement Learning with Keras*. `https://github.com/matthiasplappert/keras-rl`
2015–2016	**Motion Annotation Tool**, *Crowd-sourced Annotation of Human Motion*. `https://motion-annotation.humanoids.kit.edu`
2015	**PiBot**, *A simple Robot Platform based on a Raspberry Pi*. `https://github.com/matthiasplappert/pibot`
2015	**motion-classification**, *Tools for Classifying and Analyzing Human Motion*. `https://github.com/matthiasplappert/motion-classification`
2007–2012	**phaps**, *Side Business for App and Web Development*. Development of iOS apps for sale on the App Store as well as contract development of iOS and web apps for various customers.

Awards

2016	**Campus Days Award "Lehre[Forschung]"**, Karlsruhe. Awarded by the Karlsruhe Insitute of Technology (KIT) for outstanding student research activities.
2010	**Jugend debattiert**, *State Finals*, Stuttgart. 2nd place in the *Jugend debattiert* (youth debates) state finals (Baden-Württemberg).
2010	**Jugend debattiert**, *Regional Finals*, Ulm. 1st place in the *Jugend debattiert* (youth debates) regional finals (Ulm).
2010	**DPG Buchpreis**. Awarded by the *Deutsche Physikalische Gesellschaft* (DPG, German Physical Society) for excellent achievements in physics.

Skills

Soft	Team work, clear communication, self-organization, leadership
Programming	Python, Objective-C, C & C++, Java, JavaScript, HTML & CSS
Frameworks & Tools	Numpy, Scipy, Theano, TensorFlow, Keras, ZeroC Ice, ArmarX, git, Github, Gitlab, Slack, Office

Languages

- German (*native*)
- English (*fluent*)
- French (*beginner*)