# Matthias Plappert

*Curriculum Vitae*

## Education

**2015–2017** **Computer Science (M.Sc.)**, *Karlsruhe Institute of Technology (KIT)*.
Focus on machine learning and robotics.
Grade: *very good* (1.1)

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

## Publications

### Master Thesis

**2017** *Parameter Space Noise for Exploration in Deep Reinforcement Learning*
Prof. Dr.-Ing. Tamim Asfour, Dr. Marcin Andrychowicz & Prof. Pieter Abbeel

### Bachelor Thesis

**2015** *Classification of Human Whole-Body Motion using Hidden Markov Models*
Prof. Dr.-Ing. Tamim Asfour & Prof. Dr.-Ing. Rüdiger Dillmann

### 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**, R. Houthooft, P. Dhariwal, S. Sidor, R. Y. Chen, X. Chen, T. Asfour, P. Abbeel, M. Andrychowicz, *Parameter Space Noise for Exploration*, arXiv preprint arXiv:1706.01905 (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**
**Apr.–Sept.** **Member of Technical Staff (Intern)**, *OpenAI Inc.*, San Francisco.
Research in machine learning, especially deep reinforcement learning, with applications in robotics.

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| **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. |
| **2013–2015** | **iOS Software Engineer**, *PSPDFKit GmbH*, Karlsruhe/Vienna. |
| May–Mar. | 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** | **iOS Software Engineer Intern**, *Square Inc.*, San Francisco. |
| Oct.–Mar. | 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** | **Alternative Civilian Service ("Zivildienst")**, *RKU*, Ulm. |
| Sept.–Feb. | Support of paraplegic patients during treatment in rehabilitation. |

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## Projects

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| **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. |

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## Awards

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| **2016** | **Campus Days Award "Lehre$^{\text{Forschung}}$"**, Karlsruhe. |
| | Awarded by the Karlsruhe Insitute of Technology (KIT) for outstanding student research activities. |
| **2010** | **Jugend debattiert**, *State Finals*, Stuttgart. |
| | $2^{\text{nd}}$ place in the *Jugend debattiert* (youth debates) state finals (Baden-Württemberg). |
| **2010** | **Jugend debattiert**, *Regional Finals*, Ulm. |
| | $1^{\text{st}}$ 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. |