## Info

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| Name | Dr.-Ing. Timo Korthals |
| Web Page | https://www.timo-korthals.de/ |
| Skills | sensor & information fusion, robotics, curiosity driven / reinforcement / unsupervised / deep / machine learning, embedded and high-level programming in C/C++, ROS, embedded systems development, Python, Tensorflow, Linux application development, Yocto, Matlab |

## Professional Career

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| 01/21 - today | **DLR Project** Agri-Gaia - An agribusiness AI ecosystem for the agri-food industry (CES) |
| 10/20 - today | CLAAS E-Systems GmbH (CES) |

## Ph.D. Thesis

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| Affiliation | Bielefeld University - Cognitronics & Sensor Systems Group |
| Title | Deep Generative Models for Multi-Modal Perception under the Influence of Ambiguity |
| At-A-Glance | My work tackled the **learning of acting on multi-modal data** while facilitating **multi-modal deep generative models** to learn **multi-sensory fusion**. In the context of **artificial intelligence**, my approach contributes to **unsupervised curiosity-driven** learning of **active sensing** for a robot fleet equipped with visual, depth, and proximity sensors. |

## Academic Career

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| Affiliations | Cognitronics & Sensor Systems Group (AG-KS)<br>Research Institute for Cognition and Robotics (CoR-Lab)<br>Center for Cognitive Interaction Technology (CITEC)<br>Bielefeld University - Germany (UBi) |
| 11/18 - 09/20 | **BMBF Project** ML4Pro$^2$ Machine Learning for Production and Products - Distributed Robot Fleet Management (CoR-Lab in association with **Miele Cie. KG**) |
| 11/17 - 02/18 | **BMBF Concept Elaboration** for Self-Organising Machine Control Systems for Cooperating Agbot Fleets entitled Agrosystems of the Future (CITEC) |

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| 01/17 - 12/19 | **DAAD PPP Grant** on Learning to act on Multi-Modal Data in collaboration with the ACRV lab at the Queensland University of Technology |
| 02/15 - 02/16 | **ERASMUS+ Lecturer** at Aarhus University |
| 07/14 - 10/17 | **BMBF Project** in the Leading Edge Cluster for Cyber-Physical Systems for Electronic Environment Detection and Mapping in Agriculture Scenarios (CoR-Lab in association with **CLAAS KGaA mbH**) |
| 09/13 - 12/18 | **DFG Project** Mini Robot Developement (CITEC) |
| 09/13 - 06/14 | **PhD Scholarship Holder** Mini Robot Developement (CITEC) |

## Education

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| 03/12 - 06/13 | **Electrical Engineering Master - University of Paderborn** Topic: Unsupervised Learning of Acoustic- and Word-Units via Hierarchical, Generative Models |
| 03/10 - 08/10 | **Peking/China**, Beihang University of Aeronautics & Astronautics |
| 08/07 - 03/12 | **Electrical Engineering Bachelor - University of Paderborn** Topic: Evaluation of Algorithms for Creating Disparity Maps on the Basis of Monucalur Video Streams |

## RoboCup Competitions

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| 04/14 - 04/16 | Open Challenge @Home: 2014 Germany ($4^{\text{th}}$), 2015 Germany ($3^{\text{rd}}$), 2016 Netherlands ($2^{\text{nd}}$) |
| 08/14 - 08/16 | World Cup @Home: 2014 Brasil ($3^{\text{rd}}$), 2015 China ($3^{\text{rd}}$), 2016 Germany ($\mathbf{1^{st}}$) |
| 03/12 | Open Challenge Rescue League: 2012 Germany ($3^{\text{rd}}$) |

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