Nyranska. 1043/6 • 15300 Prague 5 - Radotin
+49176-31653139 • behrens.jk@gmail.com • www.behrens-jan.de

Jan Kristof Behrens

21.12.1988, Lich, Germany

Work Experience

Since 03/2019	Junior Researcher at the Czech Institute of Informatics, Robotics and Cybernetics, Czech Technical University, Prague Project: Robotics for Industry 4.0 - http://r4i.ciirc.cvut.cz/
02/2016 - 01/2019	Industrial Doctorate Program in Corporate Research sector at Robert Bosch GmbH Research Topic: Task and motion planning for industrial dual-arm manipulators • Doctoral supervisor: Professor Dr. Michael Beetz o University Bremen: Institute for Artificial Intelligence • Industrial Supervisor: Dr. Ralph Lange o Software Engineering Group
10/2009 - 07/2015	Student research assistant at RWTH Aachen University, Assoc. Institute for Management Cybernetics e.V. (IfU) • Software development in C++ and Python using the robotics framework ROS o Sensor fusion and state estimation using particle filters o Integration of a virtual robot in the simulated world of a virtual theater • Content conception and supervision of an accompanying lab course to the lecture Computer Science for Mechanical Engineers o Development of programming tasks in Java to teach students about embedded systems, control engineering and sensor data processing o Creation of slides and other support material o Tutor training o Supervision of lab courses • Representation of the institute at trade fairs

Education

10/2013 - 09/2015	M.Sc. Automation Engineering – Grade 1.9 • RWTH Aachen University • Master's thesis to the topic of object tracking for mobile robotics in dynamic environments using a probabilistic modelling approach – Grade 1.0
10/2008 - 09/2013	B.Sc. Mechanical Engineering, specialization Chemical Engineering – Grade 2.9 • RWTH Aachen University • Bachelor's thesis in cooperation with Bosch Engineering GmbH – Grade 1.0
06/2008	Abitur – Grade 1.8 • Gymnasium Cäcilienschule, Wilhelmshaven

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04/2012 - 02/2013 Bachelor's thesis and internship at Bosch Engineering GmbH, Abstatt
Thesis title: "Map based vehicle cruise control for energetic optimization of the driving behavior"

08/2012 Internship at ACCES e.V., Aachen
- Precision casting with titan aluminum alloy

10/2010 - 12/2011 Participation at Processnet/European Congress of Chemical Engineering (ECCE) and ECCE's Student Competition, Berlin
- Student research project and report: construction of a vehicle powered by chemical processes – grade 1.0
- Model based design of innovative vehicle concepts using Matlab

10/2010 - 02/2011 RWTH Aachen University, Chair of Fluid Process Engineering (AVT.FVT), participation in a spirits production workshop for chemical engineers

08/2008 - 10/2008 Internship at German Navy, Naval Arsenal Wilhelmshaven

Research Visits

11/2017 Visiting researcher, Center for Applied Autonomous Sensor Systems
Örebro University
Duration: November 01 – November 30 2017
Collaborators: Masoumeh Mansouri PhD and Prof. Federico Pecora

03-06/2016 Visiting researcher, Institute for Artificial Intelligence
Bremen University
Duration March 01 – June 30 2016
Supervisor: Prof. Michael Beetz

05/2016 Visiting International Conference on Robotics and Automation
Stockholm, Sweden

Publications

- J. K. Behrens, K. Stepanova, and R. Babuska (May 2020). "Simultaneous task allocation and motion scheduling for complex tasks executed by multiple robots". In: 2020 International Conference on Robotics and Automation (ICRA). Paris
- Petr Svarny et al. (Nov. 2019). "Safe physical HRI: Toward a unified treatment of speed and separation monitoring together with power and force limiting". In: 2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS). ISSN: 2153-0858, pp. 7580–7587. DOI : 10.1109/IROS40897.2019.8968463
- J. K. Behrens et al. (July 2019). "Specifying Dual-Arm Robot Planning Problems Through Natural Language and Demonstration". In: IEEE Robotics and Automation Letters 4.3, pp. 2622–2629. ISSN: 2377-3766. DOI : 10.1109/LRA.2019.2898714
- J. K. Behrens, R. Lange, and M. Mansouri (May 2019). "A Constraint Programming Approach to Simultaneous Task Allocation and Motion Scheduling for Industrial Dual-Arm Manipulation Tasks". In: 2019 International Conference on Robotics and Automation (ICRA), pp. 8705–8711. DOI: 10.1109/ICRA.2019.8794022
- Jan Kristof Behrens, Ralph Lange, and Michael Beetz (May 2017). "CSP-Based integrated Task & Motion Planning for Assembly Robots". In: Proc. of the Workshop on AI Planning and Robotics at ICRA '17. Singapore

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Voluntary activities

03/2011 – 03/2016 Treasurer and board member of the Gliding club at RWTH Aachen (FTHA e.V.)

- Club value ca. 250.000 €
- approximately 90 members

Additional qualification

EDV/IT	Excellent knowledge:	Python, ROS, Linux, Microsoft Office
	Good Knowledge:	C++, Java, git, Wordpress, HTML, CSS, Davinci Resolve
	Basic Knowledge:	AutoDesk Inventor
Simulation and modeling:		Matlab/Simulink, Dymola/Modelica, Aspen Plus, Minizinc, Google OR-Tools
Languages	Native:	German
	Fluent:	English

Licenses

Since 2014	Type rating Touring Motor Glider
Since 2012	Sailplane Pilot License (SPL)
Since 2007	Sport boat license
Since 2006	German driving license class B

Personal interests

Photography, gliding and touring motor gliding, bike touring

Prague, 12th of November 2020