

Markus Buchholz

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<https://markusbuchholz.github.io/>

Research Interests

Robotics, autonomous systems, robot motion control, whole-body dynamics, trajectory optimization, and simulations.

Education

Gdansk University of Technology Ph.D. in Mechatronics Research: Real-time algorithm to control nonlinear robot systems.	Jan 2010 – Dec 2012
Gdansk University of Technology Master's in Electronics, Telecommunication, and Computer Science Grade: A	Sep 1998 – Jun 2003
Gdansk University of Technology Master's in Economy and Management Grade: A	Mar 2002 – Mar 2004

Professional Experience

Postdoctoral Researcher in Underwater Robotics Heriot-Watt University, Scotland	Sep 2023 – Present
Senior Software Engineer - Robotics Yaskawa Robotics, Germany	Mar 2023 – Sep 2023
Founder Buchholz Robotics, Norway	Jul 2020 – Sep 2023
Senior Robotics Engineer Zivid, Norway	Mar 2022 – Sep 2022
Principal Software Engineer Canrig Robotics, Norway	Jan 2018 – Jul 2020
R&D Senior Engineer - Motion Control ABB Robotics, Norway	Mar 2014 – Dec 2017
Senior Engineer - Subsea Control Systems Equinor (Statoil), Norway	Mar 2012 – Feb 2014
R&D Senior Engineer - Ship Electrical Power Systems Rolls-Royce, Norway	Jan 2011 – Feb 2012
Senior Engineer - Subsea Control Systems General Electric, Norway	Apr 2008 – Dec 2010
Electrical Engineer (Shipyard) Rysjedal Elektro AS, Norway	Apr 2006 – Dec 2007

Professional Service

Organizing Committee Member: AQ²UASIM Workshop, ICRA 2024, USA

May 2025

Teaching and Courses

Postgraduate Certificate in Teaching and Learning (PGCertTL) 2024

Achieved Associate Fellowship of the Higher Education Academy
Heriot-Watt University

Teaching Assistant - Robotics Systems Science

Sep 2023 – Present

Heriot-Watt University

Technical Support, BSc Project, Chen Xiangru

Jan 2024 – Present

LLM-Driven Behavior Trees for Autonomous Underwater Robotics.
Heriot-Watt University

Technical Support, MSc Project, Baudouin Belpaire

2024

Waste Collection Pipeline on BlueBoat.
Heriot-Watt University

Creator (Online Course): Behavior Trees for ROS2

2022

The ConstructSim

Creator (Online Course): Reinforcement Learning for Robotics)

2020

The ConstructSim

Creator (Online Course): Machine Learning for Robotics (ROS)

2020

The ConstructSim

Fellowships, Awards, and Patents

Golden Award from the Rector of Gdansk University of Technology

2004

Scholarship, Gdansk University of Technology (Computer Science)

1998–2003

Scholarship, Gdansk University of Technology (Economy)

2002–2004

Technical Patent, Inventory System Design, USA

2024

Technical Patent, Slip Wear Detection System, USA

2022

Multiple Medalist in Track and Field (Decathlon)

1990–1998

Publications

All publications are available online at: <https://scholar.google.com/citations?user=YnoZFxwAAAAJhl=no>

Technical Skills

C++, Python, ROS 2, Docker, Linux, Matlab, StoneFish, GazeboSim, MoveIt2, Pinocchio, Crocoddyl, ArduPilot.

Passions

Robotics, Cycling, Linux, ROS 2.