Jędrzej Orbik

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PROFESSIONAL SUMMARY

Experienced robotics software engineer with a strong background in motion planning, robot perception, and deep reinforcement learning. Making industrial robotics accessible.

EDUCATION

Technical University of Munich, Germany
Master of Science, Electrical and Computer Engineering, 2020

Wroclaw University of Technology, Poland
Engineer, Control Engineering and Robotics, 2016

PUBLICATIONS

CoRL 2022	"Don't Start From Scratch: Leveraging Prior Data to Automate Robotic Reinforcement Learning" Homer Walke, Jonathan Yang, Albert Yu, Aviral Kumar, **Jędrzej Orbik**, Avi Singh, Sergey Levine
IEEE ICDL 2021	"Inverse reinforcement learning for dexterous hand manipulation" **Jędrzej Orbik**, Alejandro Agostini, Dongheui Lee
CoRL 2021	"ReLMM: RL for Autonomous Mobile Manipulation Learning to Cleanup in the Real World" Charles Sun*, **Jędrzej Orbik***, Coline Devin, Brian Yang, Abhishek Gupta, Glen Berseth, and Sergey Levine
Ubiquitous Robots 2021	"Human hand motion retargeting for dexterous robotic hand" **Jędrzej Orbik**, Shile Li, Dongheui Lee

RESEARCH EXPERIENCE

PROJECT ASSISTANT, PHD STUDENT, TU VIENNA; AUSTRIA – 07.2024-01.2025

Research of reinforcement learning methods for contact-rich robotics manipulation. Deployment of the methods on the Franka Panda hardware.

RESEARCH ENGINEER, UC BERKELEY; BERKELEY, CA, USA – 09.2020-09.2021

Contribution to the deep reinforcement learning research projects - mobile robot manipulation, robot teleoperation using the VR headset, transfer learning for the object manipulation.

INVERSE REINFORCEMENT LEARNING FOR DEXTEROUS HAND MANIPULATION – 2020

Master's thesis. Department for Dynamic Human-Robot-Interaction for Automation Systems, Prof. Dongheui Lee, Technical University Munich.

LEARNING BY DEMONSTRATION FROM TELEOPERATION – 2019

Course project. Development of the system for the acquisition of the human hand trajectories from a depth-camera stream using a deep learning pose estimation model.

AUTONOMOUS SWIMMING PLATFORM WITH IMAGE ANALYSIS – 2016

Bachelor Thesis. Department of Technical Informatics, Dr. Krzysztof Halawa, Technical University of Wroclaw

WORKING EXPERIENCE

ROBOTICS SOFTWARE ENGINEER, INTRINSIC; MUNICH GERMANY – 02.2025-PRESENT

SOFTWARE ENGINEER, ROBOCEPTION; MUNICH GERMANY – 05.2022-12.2023

Object detection with deep learning from point cloud and the conventional methods. Presentation of the product with the customers. Software development using the test-centric approach.

WORKING STUDENT, YOUMMDAY; MUNICH, GERMANY – 07.2018-09.2020

Independent development of machine learning solution - research and implementation of authentication systems: face recognition, keystroke pattern recognition. Tools: C++14 with Dlib library, Tensorflow.

WORKING STUDENT, OBJECTIVE SOFTWARE; MUNICH, GERMANY – 08.2017-03.2018

Development in ROS in area of BMW's autonomous driving at sensorics team - visualizations of sensor data (camera, LIDAR, radar, GPS map drawing), sensor data debugging

SKILLS

- **Software development:** Python (advanced), modern C++17/20 and Qt (advanced), CMake, Git
- **Libraries**: PyTorch, Tensorflow (1 and 2), ROS, NumPy, MuJoCo
- **Information processing:** data structures, algorithms, databases (MySQL, Oracle Database)
- **Languages:** English (fluent, daily used), German (fluent), Polish (native)

INTERESTS & ACTIVITIES

Sports: tennis, swimming, dancing, motorcycle touring
Music: Electronic, groove metal
Games: Starcraft 2, chess