Ge Li (Bruce)

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Education

Karlsruhe Institute of Technology (KIT)   April 2020 - Present
Ph.D. Candidate in Computer Science and Robot Learning. Advisor: Prof. Gerhard Neumann   *Karlsruhe, Germany*

RWTH Aachen University   Oct 2015 - July 2019
M.S. in Computer Aided Mechanical Engineering   *Aachen, Germany*

University of Science and Technology of China   Sept 2011 - July 2015
B.S. in Mechanical Engineering. Outstanding bachelor graduate award   *Hefei, China*

Selected Experience

KIT Scientific Employee and Teaching Assistant   April 2020 - Present
Advisor: Prof. Gerhard Neumann and T.T. Prof. Rudolf Lioutikov.   *Karlsruhe, Germany*

- I am employed by KIT and Helmholtz Association of German Research Center. My projects focus on robot movement modeling and skills learning in objects manipulations via reinforcement learning (See [1]) and imitation (See [2]).
- I served as a Teaching Assistant for Cognitive Systems (SS20, SS21), Machine Learning (WS21/22, SS23), and partially in Deep Reinforcement Learning (WS21/22). I led and supervised several Bachelor's and Master's research projects, seminars and theses.

Max Planck Institute for Intelligent Systems (MPI-IS)   Nov 2018 – July 2019
Research Intern and Master's thesis. Advisor: Prof. Jan Peters   *Tübingen, Germany*

- I wrote my Master's thesis under the supervision of Prof. Jan Peters and collaborated with his PhD students, Sebastian Gomez-Gonzalez and Dieter Büchler. I reconstructed the robot table tennis setup of MPI-IS in simulation to support algorithm development in imitation and reinforcement learning. Furthermore, I developed an algorithm to fine-tune imitation learning policy via optimization method to increase the policy's performance.

Alfred Kärcher SE & Co. KG   March 2018 – Aug 2018
Software Engineer Intern, Dept. of Robotics   *Stuttgart, Germany*

- I developed a simulator for an autonomous robot cleaner in commercial settings, such as supermarkets, and simulated the complex behavior of different proximity sensors, which reduced hardware usage in software development. Additionally, I developed an algorithm to automatically detect installation errors of ultrasonic sensors on the robot.

Selected Publications

[1] **Ge Li**, Hongyi Zhou, Dominik Roth, Serge Thilges, Fabian Otto, Rudolf Lioutikov, and Gerhard Neumann. "Open the Black Box: Step-based Policy Updates for Temporally-Correlated Episodic Reinforcement Learning." In International Conference on Learning Representations (ICLR), 2024.

[2] **Ge Li**, Zeqi Jin, Michael Volpp, Fabian Otto, Rudolf Lioutikov, and Gerhard Neumann. "ProDMP: A Unified Perspective on Dynamic and Probabilistic Movement Primitives." IEEE Robotics and Automation Letters (RAL), 2023.

[3] Onur Celik, Dongzhuoran Zhou, **Ge Li**, Philipp Becker, and Gerhard Neumann. "Specializing versatile skill libraries using local mixture of experts." In Conference on Robot Learning (CoRL). PMLR, 2022.

Service & Skills

Reviewer: IROS 2021-23, RAL 2021-23, CoRL 2022-23, ICRA 2022-24
Coding: Python, PyTorch, C++, ROS, Mujoco
Languages: Chinese (native), English (proficient), German (intermediate)