Jin Cheng

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Education

Doctoral student in Computer Science, ETH Zürich, Switzerland since 10/2023
Advisor: Prof. Dr. Stelian Coros (ETH Zürich), Prof. Dr. Guanya Shi (Carnegie Mellon University)

M.Sc. in Mechanical Engineering, ETH Zürich, Switzerland 09/2020 – 07/2023

B.E. in Vehicle Engineering, Tsinghua University, China 09/2016 – 07/2020

Research Experience

Scientific Assistant, ETH Zürich since 10/2023
Computational Robotics Lab (CRL), supervised by Prof. Dr. Stelian Coros

Research Intern, Max Planck Institute for Intelligent Systems 04/2023 - 09/2023
Autonomous Learning Group, supervised by Prof. Dr. Georg Martius

Research Assistant, ETH Zürich 11/2022 - 03/2023
Computational Robotics Lab (CRL), supervised by Prof. Dr. Stelian Coros

Semester and Master Thesis, ETH Zürich 03/2022 - 11/2022
Robotic Systems Lab (RSL), supervised by Prof. Dr. Marco Hutter

Research Assistant and Bachelor Thesis, Tsinghua University 09/2019 - 05/2020
State Key Laboratory of Intelligent Green Vehicle and Mobility, supervised by Prof. Dr. Qing Zhou

Publications

RAMBO: RL-augmented Model-based Whole-body Control for Loco-manipulation (Under Review)
Jin Cheng, Dongho Kang, Gabriele Fadini, Guanya Shi, Stelian Coros 04/2025

CAIMAN: Causal Action Influence Detection for Sample-efficient Loco-manipulation (Under Review)
Yuanchen Yuan, Jin Cheng, Núria Armengol Urpí, Stelian Coros 02/2025

Spatio-Temporal Motion Retargeting for Quadruped Robots (Under Review)
Taerim Yoon, Dongho Kang, Seungmin Kim, Minsung Ahn, Jin Cheng, Stelian Coros, Sungjoon Choi 02/2025

SATA: Safe and Adaptive Torque-Based Locomotion Policies Inspired by Animal Learning (RSS 2025)
Peizhuo Li, Hongyi Li, Ge Sun, Jin Cheng, Xinrong Yang, Guillaume Bellegarda, Milad Shafiee, Yuhong Cao, Auke Ijspeert, Guillaume Sartoretti 02/2025

DARE: Diffusion Policy for Autonomous Robot Exploration (ICRA 2025)
Yuhong Cao, Jeric Lew, Jingsong Liang, Jin Cheng, Guillaume Sartoretti 02/2025

RobotKeyframing: Learning Locomotion with High-Level Objectives via Mixture of Dense and Sparse Rewards (CoRL 2024)
Fatemeh Zargarbashi, Jin Cheng, Dongho Kang, Robert Sumner, and Stelian Coros 09/2024

Offline Diversity Maximization Under Imitation Constraints (RLC 2024)
Marin Vlastelica, Jin Cheng, Georg Martius, Pavel Kolev 05/2024

Learning Diverse Skills for Local Navigation under Multi-constraint Optimality (ICRA 2024)
Jin Cheng, Marin Vlastelica, Pavel Kolev, Chenhao Li, Georg Martius 02/2024

RL + Model-based Control: Using On-demand Optimal Control to Learn Versatile Legged Locomotion (RA-L)
Dongho Kang, Jin Cheng, Miguel Zamora, Fatemeh Zargarbashi, Stelian Coros 09/2023

Haptic Teleoperation of High-dimensional Robotic Systems Using a Feedback MPC Framework (IROS 2022)
Jin Cheng, Firas Abi-Farraj, Farbod Farshidian, Marco Hutter 10/2022

Invited Talks

Frontier AI & Robotics (FAR) @ Amazon 05/2025
Robotics and AI Institute (RAI) @ Zurich 04/2025
Biomimetic Robotics Laboratory @ MIT 11/2023

Teaching Experience

Computational Models of Motion (263-5807-00) 02/2025 - 07/2025
Computational Robotics Lab (CRL) at ETH Zürich, lectured by S. Coros

Probabilistic Artificial Intelligence (263-5210-00) 08/2024 - 02/2025
Learning & Adaptive Systems Group (LAS) at ETH Zürich, lectured by A. Krause

Introduction to Machine Learning (252-0220-00) 02/2024 - 08/2024
Learning & Adaptive Systems Group (LAS) at ETH Zürich, lectured by F. Perez Cruz, F. Yang

Dynamic Programming and Optimal Control (151-0563-01) 08/2022 - 02/2023
Institute for Dynamic Systems and Control (IDSC) at ETH Zürich, lectured by R. D'Andrea

Recursive Estimation (151-0566-00) 02/2022 - 08/2022
Institute for Dynamic Systems and Control (IDSC) at ETH Zürich, lectured by R. D'Andrea

Dynamic Programming and Optimal Control (151-0563-01) 08/2021 - 02/2022
Institute for Dynamic Systems and Control (IDSC) at ETH Zürich, lectured by R. D'Andrea

Skills and Services

Language: Chinese (Native), English (C1), German (B2)
Programming: Python, C++, Git, Docker, LaTeX, PyTorch, ROS
Journal Reviewer: RA-L
Conference Reviewer: CoRL, ICRA, IROS, RLC, SIGGRAPH
Workshop Reviewer: EXAIT@ICML2025

Scholarships and Awards

Outstanding Teaching Assistant Award 03/2022
ETH Zürich *Zürich, Switzerland*

Friends of Tsinghua Scholarship – German Scholarship 10/2019
Tsinghua University *Beijing, China*

Academic Excellence Scholarship 10/2018, 10/2019
Tsinghua University *Beijing, China*

Volunteer Public Service Scholarship 10/2018
Tsinghua University *Beijing, China*

Integrated Excellence Scholarship 10/2017
Tsinghua University *Beijing, China*

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