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

Whole-body Inverse Dynamics MPC for Legged Loco-manipulation (RA-L)
Lukas Molnar, Jin Cheng, Gabriele Fadini, Dongho kang, Fatemeh Zargarbashi, Stelian Coros 11/2025

RAMBO: RL-Augmented Model-Based Whole-Body Control for Loco-Manipulation (RA-L)
Jin Cheng, Dongho Kang, Gabriele Fadini, Guanya Shi, Stelian Coros 07/2025

Spatio-Temporal Motion Retargeting for Quadruped Robots (T-RO)
Taerim Yoon, Dongho Kang, Seungmin Kim, Jin Cheng, Minsung Ahn, Stelian Coros, Sungjoon Choi 07/2025

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

Preprints

Benchmarking Whole-Body Motion Tracking Policies via Just Dance: Using a Commercial Console Game for Embodied-AI Evaluation (Under Review)
Jeonghwan Kim, Wontaek Kim, Yidan Lu, Jin Cheng, Fatemeh Zargarbashi, Zicheng Zeng, Zekun Qi, Zhiyang Dou, Nitish Sontakke, Donghoon Baek, Li Yi, Sehoon Ha, Tianyu Li 11/2025

APEX: Action Priors Enable Efficient Exploration for Robust Motion Tracking on Legged Robots (Under Review)
Shivam Sood, Laukik Nakhwa, Ge Sun, Yuhong Cao, Jin Cheng, Fatemeh Zargarbashi, Taerim Yoon, Sungjoon Choi, Stelian Coros, Guillaume Sartoretti 11/2025

TARC: Time-Adaptive Robotic Control (Under Review)
Arnav Sukhija, Lenart Treven, Jin Cheng, Florian Dörfler, Stelian Coros, Andreas Krause 09/2025

Learning Steerable Imitation Controllers from Unstructured Animal Motions (Under Review)
Dongho Kang, Jin Cheng, Fatemeh Zargarbashi, Taerim Yoon, Sungjoon Choi, Stelian Coros 07/2025

CAIMAN: Causal Action Influence Detection for Sample-efficient Loco-manipulation (Under Review)
Yuanchen Yuan, Jin Cheng, Núria Armengol Urpí, Stelian Coros 07/2025

Learning More With Less: Sample Efficient Dynamics Learning and Model-Based RL for Loco-Manipulation
Benjamin Hoffman, Jin Cheng, Chenhao Li, Stelian Coros 02/2025

MetaLoco: Universal Quadrupedal Locomotion with Meta-Reinforcement Learning and Motion Imitation
Fatemeh Zargarbashi, Fabrizio Di Giuro, Jin Cheng, Dongho Kang, Bhavya Sukhija, Stelian Coros 09/2024

Invited Talks

Intelligent Motion Lab (IMO) @ Seoul National University (SNU) 10/2025
Frontier AI & Robotics (FAR) @ Amazon 05/2025
Robotics and AI Institute (RAI) @ Zurich 04/2025
Biomimetic Robotics Laboratory @ Massachusetts Institute of Technology (MIT) 11/2023

Teaching Experience

Probabilistic Artificial Intelligence (263-5210-00) 08/2025 - 02/2026
Learning & Adaptive Systems Group (LAS) at ETH Zürich, lectured by A. Krause

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: T-RO, RA-L
Conference Reviewer: CoRL, ICRA, IROS, RLC, SIGGRAPH

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*

13.11.2025