

Georgia Chalvatzaki

Curriculum Vitae

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Personal Data

Current position **Full Professor (W3)**, *Technische Universität Darmstadt*, Computer Science Department, Inter-
active Robot Perception & Learning Group.
Birthdate 06-05-1988 Birthplace Athens (Greece)

Research Interests

- **Autonomous Robots:** Grasping, Manipulation, Mobile Manipulation, Robotic Perception, Motion Planning, Task Planning, Assistive Robotics, Mobile Robotics, Optimal Control, Hierarchical Control, Adaptive Control, Detection and Tracking
- **Machine Learning:** Supervised, Unsupervised, and Reinforcement Learning, Deep Learning, Imitation Learning, Model Learning, Regression, Attention-based learning, Few-shot/One-shot Learning, Transfer Learning, Multi-task Learning, Multi-modal Learning
- **Human-Robot Interaction:** Human-centered robotics, Human motion modelling, Intention prediction, Human attention modelling, Human activity recognition, Human-centered systems, Shared Control/Autonomy, Collaborative/Cooperative interaction

Educational Background

- 2012 – 2019 **Ph.D. in Engineering**, *National Technical University of Athens (NTUA)*, Greece,
Thesis: *Human-Centered Modeling for Assistive Robotics: Stochastic Estimation and Robot Learning in Decision Making*, Advisor: Costas Tzafestas – Defended: 23-12-2019
Committee: Costas Tzafestas (NTUA), Petros Maragos (NTUA), Konstantinos Kyriakopoulos (NTUA), Stefanos Kollias (NTUA), Andreas Stafylopatis (NTUA), Antonios Argyros (University of Crete), Antonios Tzes (NYU Abu Dhabi).
GPA: 9.5 /10, first in class of the 2020 graduation.
- 2006 – 2012 **Diploma in Electrical and Computer Engineering**, *National Technical University of Athens (NTUA)*, Greece,
Thesis: *A system for recognizing and segmenting simple radiographic images of hands for detecting their geometric characteristics and functional parts*,
Committee: Elias Koukoutsis (NTUA), Konstantinos Papaodysseas (NTUA), Vasilios Loumos (NTUA).
GPA: 8.1/10, top 10% of 2012 graduation class.

Professional Experience

Academic

- 02/2022 – **Assistant Professor (W1)**, *Dept. of Computer Science, Technische Universität Darmstadt*,
03/2022 *Darmstadt, Germany*, Head of the intelligent Robotic Systems for Assistance Group.
- 03/2021 – **Independent Research Group Leader**, *Dept. of Computer Science, Technische Universität*
01/2022 *Darmstadt, Darmstadt, Germany*, Head of the intelligent Robotic Systems for Assistance Group.

- 03/2021 – **Research Associate**, *Projects Aristotle, CHIRON and RoboTrust*, Dept. of Computer Science, now Technische Universität Darmstadt, Darmstadt, Germany, Scientific collaboration with Intelligent Autonomous Systems Group.
- 10/2019 – **Postdoctoral Researcher**, *Intelligent Autonomous Systems Group*, Dept. of Computer Science, 02/2021 Technische Universität Darmstadt, Darmstadt, Germany, Scientific Projects: Skills4Robots (ERC project No. 640554), KoBo (BMBF), RoboTrust (Hessian state funding).
- 02/2013 – **Research Assistant**, *Institute of Communications & Computer Systems (ICCS), Athens, Greece.*, 09/2019 Scientific Projects: iWalk (National Funding, No. 5030856 National Funding), BabyRobot (Horizon2020, No. 687831), iSupport (Horizon2020, No. 643666), MOBOT (FP7 No. 600796).

Industrial

- 2018 – 2019 **Consultant**, *Vertliner Start-up company*, Athens, Greece, Development of 3D SLAM module for UAVs.
- 2008 – 2012 **Office Administrator**, *Nakis, Koukas, Dimitriou and Associates Law Firm*, Athens, Greece.
- 2007 – 2008 **Telecommunications Engineer**, *Hellenic Telecommunications Organization*, Athens, Greece.

External Funding

- 2025 – 2030 **European Research Council (ERC) Starting Grant**, *Project: Structured Interactive Perception & Learning for Hollistic Robotic Embodied Intelligence*, TUDa:€1,499,738.
Role: PI
- 2024 **Hessian AI Connectom Fund**, *Project: From toddlers to robots: Multimodal object representation learning for multitask robot behaviors*, TUDa:€75,000.
Role: co-PI
- 2023 – 2026 **Honda Research Institute, Europe**, *Project: Pose Confidences for Telerobotics*, TUDa:€252,000.
Role: PI
- 2024 – 2028 **Horizon Europe**, *Project: ARISE – ADVANCED AI AND ROBOTICS FOR AUTONOMOUS TASK PERFORMANCE*, TUDa:€353,863.
Role: PI
- 2023 – 2027 **Horizon Europe**, *Project: MANiBOT:Advancing the physical intelligence and performance of roBOTs towards human-like bi-manual objects MANipulation*, TUDa:€773,240.
Role: PI
- 2023 **Hessian AI Connectom Fund**, *Project: Lifelong Explainable Robot Learning*, TUDa:€120,000.
Role: co-PI
- 2021 – 2027 **Emmy Noether DFG**, *Project: Robot Learning of Mobile Manipulation for Intelligent Assistance*, TUDa:€1,714,498, Grant. No. 448644653.
Role: PI
- 2021 **Hessian AI Connectom Fund**, *Project: Robot Learning of Long-Horizon Manipulation bridging Object-centric Representations to Knowledge Graphs*, TUDa:€40,000.
Role: PI
- 2021 **EU - Forschungsförderung – EU for You!**, *EU start-up fund for Horizon-Europe*, TUDa: €19,000.
- 2021 **BMBF**, *Project*: Aristotle – See, Touch and Manipulate: Robot Learning for Dexterous Robot Bimanual Manipulation through Vision and Touch*, TUDa: €200,000.
*author of proposal – unofficial PI
- 2022 – 2024 **Daimler and Benz Foundation Scholarship**, *Project: Intelligent Human-Robot Interaction for Bidirectional Object Handovers*, TUDa: €40,000.
Role: PI

Awards

- 2024 **ERC Starting Grant**, *Project: Structured Interactive Perception & Learning for Hollistic Robotic Embodied Intelligence (SIREN)*.
- 2024 **Best Paper Award at the RSS 2024 Priors4Robots Workshop**, for the paper *ActionFlow: Efficient, Accurate, and Fast Policies with Spatially Symmetric Flow Matching*.
- 2024 **Spotlight Paper**, *ICLR*.
- 2023 **Outstanding Reviewer**, *NeurIPS*.
- 2023 **IROS 2023 Best Paper Award in Mobile Manipulation Finalist**, for the paper *Placing by Touching: lacing by touching: An empirical study on the importance of tactile sensing for precise object placing*.
- 2023 **Outstanding Associate Editor**, *IEEE Robotics & Automation Letters*.
- 2023 **Best Paper Award at the ICRA 2023 Workshop on Geometric Representations**, for the paper *SE(3)-DiffusionFields: Learning smooth cost functions for joint grasp and motion optimization through diffusion*.
- 2022 **IROS 2022 Best Paper Award in Mobile Manipulation**, for the paper *Robot learning of mobile manipulation with reachability behavior priors*.
- 2022 **Finalist for Dr. Hans Messer Foundation Prize**.
- 2022 **Junior Researcher for 2021 (top 10 applications)**, *academics.de, die ZEIT ONLINE*.
- 2022 **Daimler and Benz Foundation Scholarship**.
- 2021 **Emmy Noether Programme, German Research Foundation (DFG)**.
- 2021 **Finalist for Dr. Hans Messer Foundation Prize**.
- 2021 **AI Newcomer**, *German Informatics Society, BMBF, Germany*.
- 2020 **RSS Pioneer**, *Robotics Science and Systems Conference*.
- 2019 **IEEE RAS Travel Award**, *IROS 2019*.
- 2017 – 2019 **IEEE RAS Travel Award**, for participating to *ICRA 2019, 2018, 2017*.
- 2018 **Best short Paper Award**, *27th IEEE International Symposium on Robot and Human Interactive Communication (RoMan)*.
- 2014–2020 **Thomaidion Award**, *NTUA, Greece*, for Scientific Contributions the years 2014, 2015, 2016, 2018, 2019, 2020.
- 2015 **Best Paper Award**, *8th International Conference on Integrated Modeling and Analysis in Applied Control and Automation*.
- 2014 **Best Student Paper Finalist**, *4th IEEE International Conference on Wireless Mobile Communication and Health*.
- 2006 **Scholarship**, from the *Egyptian-Greek Association* for excelling the *Panhellenic competition* for *University admission*.

Professorship offers

- 06/2022 **W3 Professorship on Robot Learning**, *Technical University of Nuremberg (UTN), Germany*, (declined).
- 06/2022 **W2TT Professorship on AI Planning**, *Technical University of Munich (TUM), Germany*, (declined).
- 08/2022 **W1TTW3 Professorship on Human-Robot Interaction**, *University of Würzburg, Germany*, (declined).
- 03/2023 **W3 Professorship on Robot Perception**, *Technical University of Darmstadt*, (accepted).

Teaching

- 2023–now **Lecturer**, *Intelligent Robotic Manipulation: Advanced topics in Perception, Planning, and Control*, Elective course, Computer Science Department, Winter Term, TU Darmstadt, Germany.
- 2022–now **Lecturer**, *Seminar on Intelligent Robotic Manipulation*, Elective course, Computer Science Department, Winter & Summer Term, TU Darmstadt, Germany.
- 2022–now **Lecturer**, *Project Lab on Intelligent Robotic Manipulation*, Elective course, Computer Science Department, Winter & Summer Term, TU Darmstadt, Germany.
- 2022–now **Lecturer**, *Reinforcement Learning: From foundations to Deep Approaches*, Elective course, Computer Science Department, Summer Term, TU Darmstadt, Germany.
- 2022 **Lecturer**, *Statistical Machine Learning*, Elective course, Computer Science Department, Summer Term, TU Darmstadt, Germany.
- 2020–2021 **Teaching Assistant**, *Robot Learning-Integrated project*, Elective course, Computer Science Department, Winter and Summer Term, TU Darmstadt, Germany.
- 2012 – 2018 **Teaching Assistant**, *Course Robotics I: Analysis and Control*, Fall semesters, School of Electrical & Computer Engineering, NTUA, Greece.
- 2012 – 2018 **Teaching Assistant**, *Course Robotics II: Intelligent Robotics Systems*, Summer semesters, School of Electrical & Computer Engineering, NTUA, Greece.
- 2012 – 2018 **Teaching Assistant**, *Course on Robotics Control Systems*, Summer semesters, Ms.C. Programm on Autonomous Systems, Joint programme Schools of Electrical & Computer Engineering and Mechanical Engineering, NTUA, Greece.

Ph.D. Student Supervision

Technische Universität Darmstadt

- 02/2024 – **Ph.D. Supervisor**, *Yuezhe Zhang*,
now Learning Reactive Task and Motion Planning for Mobile Manipulation.
- 12/2023 – **Ph.D. Supervisor**, *Yufeng Jin*,
now Pose Confidences for Telerobotics.
- 10/2023 – **Ph.D. Supervisor**, *Jiayun Li*,
now Learning for Control of Mobile Manipulation Robots among Humans.
- 09/2023 – **Ph.D. Supervisor**, *Sohan Rudra*,
now Multi-task planning and Understanding with Guarantees for Long-horizon manipulation.
- 08/2023 – **Ph.D. Supervisor**, *Rickmer Krohn*,
now Learning Explainable Multisensorial skills for Mobile Manipulation.
- 06/2021 – **Ph.D. Supervisor**, *Snehal Jauhri*,
now Robot Learning of Robust Mobile Manipulation of Household Tasks.
- 09/2021 – **Ph.D. Supervisor**, *Ali Younes*,
now Representation Learning for robotic manipulation.
- 06/2021 – **Ph.D. Co-supervisor**, *Kay Hansel*,
now Learning Shared-control for Assistive Teleoperation.
- 11/2021 – **Ph.D. Co-supervisor**, *An Thai Le*,
now Optimal Transport Motion Generation in Robotics.
- 09/2020 – **Ph.D. Co-supervisor**, *Niklas Funk*,
now Learning Intelligent Robot Assembly for Architectural Construction.

Masters' and Bachelors' Student Supervision

- 2023 **M.Sc. Supervisor**, *Felix Herrmann*,
Learning Multi-view robot keypose-prediction with SE(3)-Diffusion Fields (ongoing).
- 2023 **M.Sc. Supervisor**, *Nico Nonnengießer*,
Structured learning of robot policies with SE(3) Graph Neural Networks (ongoing).
- 2023 **M.Sc. Supervisor**, *Dennis Andric*,
Learning energy-based costs with Hamiltonian Graph Neural Networks (ongoing).
- 2022 **B.Sc. Supervisor**, *Rolf Gattung*,
Active volumetric scene understanding for robotics.
- 2022 **M.Sc. Supervisor**, *Han Gao*,
Learning object affordances via interpretable neural parts (ongoing).
- 2022 **M.Sc. Supervisor**, *Zhiyuan Gao*,
Hierarchical contextualization of movement primitives for safe HRI.
- 2022 **M.Sc. Supervisor**, *Rickmer Krohn*,
Learning Mobile Manipulation tasks with Multisensory Transformers.
- 2022 **M.Sc. Supervisor**, *Maximilian Niessing*,
Attention-based objects pose detection in cluttered scenes.
- 2022 **M.Sc. co-Supervisor**, *Kuo Zhang*,
Learning safety constraints for Human-Robot Interaction.
- 2022 **M.Sc. co-Supervisor**, *Maximilian Tölle*,
Curriculum Adversarial Reinforcement Learning.
- 2022 **M.Sc. Supervisor**, *Daljeet Nandha*,
Leveraging Large Language Models for Autonomous Task Planning.
- 2022 **M.Sc. Supervisor**, *Jan Schneider*,
Model Predictive Policy Optimization Amidst Inaccurate Models.
- 2022 **M.Sc. Supervisor**, *Simon Kiefhaber*,
6D Object Pose Tracking with Energy-based models.
- 2022 **M.Sc. Supervisor**, *Yannik Frisch*,
Analysis of self-supervised keypoint detection methods for robot learning.
- 2021 **M.Sc. Supervisor**, *Lei Xu*,
Integrated AI planning for general-purpose robot manipulation.
- 2021 **M.Sc. Supervisor**, *Cedric Cerstoff*,
Memory Representations for Partially Observable Reinforcement Learning.
- 2021 **M.Sc. Supervisor**, *Shrirang Satonkar*,
Benchmarking grasping algorithms for mobile manipulation, external student from HHU Heidelberg.
- 2021 **M.Sc. Supervisor**, *Axel Patzwahl*,
Multi-sensor Fusion for Target Motion Prediction with an Application to Robot Baseball.

National Technical University of Athens

- 2021 **M.Sc. Supervisor**, *Ioannis Asmanis*,
3D Visual Semantic SLAM for indoor navigation.
- 2018 **M.Sc. Supervisor**, *Theodoros Tsitsimis*,
Learning cooperative grasping of objects and adaptive robot dexterity in child-robot interaction environments.
- 2021 **M.Sc. Supervisor**, *Jack Hadfield*,
Virtual agent for object assembly assistance using object pose estimation.

Visiting Researchers' Supervision

- 2024 **Visiting Ph.D.**, *Luca Scofano*, Distilling task plans from videos with foundation models.
- 2024 **Visiting Ph.D.**, *Elisa Alboni*, Safe Reinforcement Learning for Robotic Manipulation.
- 2023 **ELLIS Ph.D.**, *Gabriele Tiboni*, Sim2Real for Robot Reinforcement Learning.
- 2022 **DAAD-WISE**, *Ishikaa Lunawat*,
6D-GraspNERF: Single-view 6D Grasp Generation with Neural Radiance Fields, Internship.

Community Services

- 2024 **Workshops chair**, *Conference on Robot Learning*.
- 2024 – now **Chair**, *IEEE Women in Engineering, Robotics and Automation Society*.
- 2023 **Awards committee**, *IEEE ICRA & IROS*.
- 2022 – 2023 **Associate Chair**, *IEEE Technical Cluster on Robotics for Unstructured Environments*.
- 2022 – 2023 **Co-Chair**, *IEEE Women in Engineering, Robotics and Automation Society*, with Chair Karinne Ramirez Amaro (Chalmers University of Technology, Sweden) and co-Chair Daniel Leidner (DLR, Germany).
- 2021 – now **Co-Chair**, *IEEE Technical Committee on Mobile Manipulation*, with co-Chairs Kensuke Harada (AIST, Japan), Roberto Martin-Martin (Stanford, USA).

Editing

- 2021 – now **Associate Editor**, for *IEEE Robotics and Automation Letters (RA-L)*.
- 2023 – now **Associate Editor**, for *International Journal on Robotics Research (IJRR)*.
- 2023 **Associate Editor**, *International Conference on Intelligent Robots & Systems (IROS)*.
- 2022-2023 **Area Chair**, *Conference on Robot Learning (CoRL)*.
- 2023-2024 **Area Chair**, *Robotics Science & Systems (RSS)*.
- 2022 – 2023 **Associate Editor**, *IEEE ICRA-Workshops*.
- 2022 **Area Chair**, *ACM/IEEE HRI*.

Conferences/Workshops/Events Organization

- 2020 **Organizer of the "RoboTrust Workshop"**, in the *2020 International Conference of Social Robotics*, <https://sites.google.com/view/robotrust-workshop/home>.
- 2021 **Co-organizer of the 2021 Mobile Manipulation Hackathon in IROS 2021**, (*cancelled due to CoVID-19 restrictions*).
- 2021 **General Co-Chair RSS Pioneers Workshop**, part of the organizing committee of *RSS 2021*, <https://sites.google.com/view/rsspioneers2021>.
- 2022 **Co-organizer of the 2022 IEEE RAS Women in Engineering Mentoring Dinner-Event**, *ICRA 2022*, May 25, 2022, Philadelphia Convention Center, USA.
<https://www.icra2022.org/program/special-ras-events>
- 2022 **Co-organizer of the 2022 IEEE RAS Women in Engineering Online Mentoring Event**, *RAS events*, May 13, 2022, online.
<https://www.icra2022.org/program/special-ras-events>
- 2022 **Co-organizer of the Workshop 'Leading a Research Group in the Field of Artificial Intelligence'**, *DFG Emmy Noether Meetup 2022*, July 13, 2022, Bonn, Gemrnay.
- 2022 **Main organizer of the Workshop 'Mobile Manipulation and Embodied Intelligence: Challenges and Opportunities'**, co-organizers: *Roberto Martin-Martin, Nikolaus Correll, Kensuke Harada, Tamim Asfour, Mehmet Dogar*, *IROS 2022*, October 23, 2022, Kyoto, Japan.

- 2022 **Main organizer of the Workshop 'Mobile Manipulation and Embodied Intelligence: Challenges and Opportunities'**, co-organizers: *Roberto Martin-Martin, Nikolaus Correll, Kensuke Harada, Tamim Asfour, Mehmet Dogar*, IROS 2022, October 23, 2022, Kyoto, Japan.
- 2023 **Main organizer of the *Workshop on effective representations, abstractions, and priors for robot learning (RAP4Robots)***, co-organizers: *Jeannette Bohg, Takayuki Osa, Oliver Kroemer, Fabio Ramos, Snehal Jauhri, Ali Younes, Mohit Sharma*, ICRA 2023, May 29, 2023, London, UK.
- 2023 **Organizer of the *Workshop on Policy learning on Geometric Spaces***, co-organizers: *Fabian Otto, Ning Gao, Nicolas Schreiber, Vien Ngo, Danny Driess, Gerhard Neumann, Clemens Eppner*, IROS 2023, October 1, 2023, Detroit, USA.
- 2023 **Organizer of the *Workshop on Learning Effective Abstractions for Planning (LEAP)***, co-organizers: *Beomjoon Kim, David Paulius, Eric Rosen, Naman Shah, Tom Silver*, CoRL 2023, November 6, 2023, Atlanta, USA.
- 2023 **Organizer of the *6th Robot Learning Workshop: Pretraining, Fine-Tuning, and Generalization with Large Scale Models***, co-organizers: *Dhruv Shah, Claas Voelcker, Paula Wulkop, Ransalu Senanayake, Julien Perez, Jonathan Tompson, Hamidreza Kasaei, Alex Bewley*, NeuRIPS 2023, December 16, 2023, New Orleans, USA.
- 2024 **Co-organizer of the *2nd Workshop on Mobile Manipulation and Embodied Intelligence (MOMA.v2): Integrating Perception, Learning, and Control for Full Autonomy***, co-organizers: *Snehal Jauhri, Yuqian Jiang, Weiwei Wan, Kensuke Harada, Nick Heppert, Daniel Honerkamp, Roberto Martin-Martin, Tim Welschhold, Abhinav Valada*, ICRA 2024, May 13, 2024, Yokohama, Japan.

Reviewing Activities

- Journals IEEE Robotics & Automation Letters, IEEE Transactions on Human-Machine Systems, Robotics and Autonomous Systems, Frontiers in Robotics & AI, Robotica, International Journal on Robotics Research.
- Conferences IEEE International Conference on Robotics and Automation (ICRA), IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), Robotics Science & Systems (RSS), Conference on Robot Learning (CoRL), IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechanics (BioRob), IEEE Mediterranean Conference on Control and Automation (MED), IEEE European Control Conference (ECC), IEEE International Conference on Robot & Human Interactive Communication (ROMAN), AAAI Conference on Artificial Intelligence (AAAI), International Conference of Learning Representations (ICLR), Conference on Neural Information Processing Systems (NeurIPS), AISTATS, International Conference on Machine Learning (ICML), International Joint Conferences on Artificial Intelligence (IJCAI).
- Proposals DFG, Austrian Science Fund, ERC.

Keynotes – Panels

- 10/2021 ***How can multi-sensory data help us obtain better assistive robots?***, Keynote speaker the ACM ICMI Workshop: *Interactive Multimodal Learning'21 (online)*, <https://sites.google.com/view/interactivemultimodallearning>.
- 03/2022 **Academic Panel**, *HRI Pioneers Workshop of the 2022 ACM/IEEE International Conference on Human-Robot Interaction (online)*, <https://hripioneers.org/speakers>.
- 06/2022 ***Towards Intelligent Robotic Assistants***, Keynote speech at the *Robotics, Perception, and Learning International Summer School, KTH*, 12-15 June, 2022, Sweden. <https://www.summer-school.rpl.eecs.kth.se/>
- 06/2022 ***Why "real" robots like priors and structure?*** –tentative, Keynote at *Workshop: Robot Learning at Scale, RSS 2022*, June 27, 2022, Columbia University, USA. <https://sites.google.com/view/rss22-srl/home>

- 07/2022 **Towards AI robotic assistants that learn from and for humans.**, Keynote at Workshop: *Social Intelligence in Humans and Robots*, RSS 2022, July 1, 2022, Columbia University, USA. <https://social-intelligence-human-ai.github.io>
- 10/2022 **Shaping Robotic Assistance through Structured Robot Learning**, Keynote speaker at *IEEE IROS Conference 2022*, October 26, 2022, Kyoto, Japan. <https://iros2022.org/>
- 10/2022 **Learning adaptive and safe human-centric robot behaviors**, Keynote at Workshop: *2nd RL-CONFORM: Reinforcement Learning meets HRI, Control, and Formal Methods*, IROS 2022, October 23, 2022, Kyoto, Japan. <https://rlconform-workshop.github.io/>
- 10/2022 **Scaling learning of manipulation skills with models, priors, and structure**, Keynote at Workshop: *The role of uncertainty and how it is tackled in robotic grasping and manipulation*, IROS 2022, October 27, 2022, Kyoto, Japan. <https://sites.google.com/view/the-role-of-uncertainty/home>
- 10/2022 **Panel on Uncertainty in Manipulation**, at Workshop: *The role of uncertainty and how it is tackled in robotic grasping and manipulation*, IROS 2022, October 27, 2022, Kyoto, Japan. <https://sites.google.com/view/the-role-of-uncertainty/home>
- 12/2022 **Real robots learn with structure.**, Keynote at the *5th Robot Learning Workshop: Trustworthy Robotics in NeurIPS 2022*, <http://www.robot-learning.ml/2022/>.
- 12/2022 **Panel: Uncertainty-Aware Machine Learning for Robotics**, *5th Robot Learning Workshop: Trustworthy Robotics in NeurIPS 2022*, <http://www.robot-learning.ml/2022/>.
- 12/2022 **Towards scalable robot manipulation skills.**, Distinguished speaker at the *Real Robot Challenge – Learning Dexterous Manipulation from Offline Data in the Real World Workshop in NeurIPS2022*, <https://real-robot-challenge.com/en>.
- 7/2023 **Real Robots learn with Structure**, Workshop on *Interdisciplinary Exploration of Generalizable Manipulation Policy Learning: Paradigms and Debates*, RSS 2023, Daegu, Korea.
- 7/2023 **Structuring Robot Learning for Mobile Manipulation**, Workshop on *Taking Mobile Manipulators into the Real World*, RSS 2023, Daegu, Korea.
- 10/2023 **Batching Everything, Everywhere for Fast Robot Planning and Control**, Workshop on *Differentiable Probabilistic Robotics*, IROS 2023, Detroit, USA.
- 10/2023 **Interactive Robot Perception and Learning for Mobile Manipulation**, Workshop on *Integrated Perception, Planning, and Control for Physically and Contextually-Aware Robot Autonomy*, IROS 2023, Detroit, USA.
- 10/2023 **Structured robot learning in the human-centred design of intelligent assistants**, Workshop on *Assistive Robotics for Citizens*, IROS 2023, Detroit, USA.
- 10/2023 **Long-horizon manipulation: the crossroads of planning and learning**, Workshop on *Task and Motion Planning: from Theory to Practice*, IROS 2023, Detroit, USA.
- 10/2023 **Walking the line between classical and learning-based methods for intelligent robotic manipulation**, Workshop on *Learning Meets Model-based Methods for Manipulation and Grasping*, IROS 2023, Detroit, USA.
- 11/2023 **Geometric Inductive Biases & Representations in Robot Learning**, Workshop: *Neural Representation Learning for Robot Manipulation*, CoRL 2023, Atlanta, USA.
- 06/2024 **Interactive Robot Perception and Learning for Mobile Manipulation**, Keynote Speaker at the *PErvasive Technologies Related to Assistive Environments Conference*, PETRA 2024, Crete, Greece, <http://www.petrae.org>.
- 07/2024 **Structured Robot Learning for Intelligent Manipulation and Human-Robot Interaction**, Workshop: *Structural Priors as Inductive Biases for Learning Robot Dynamics*, RSS 2024, Delft, Netherlands.

- 07/2024 **Geometric and Structural Inductive Biases for Efficient Robot Learning**, *Workshop: Geometric and Algebraic Structure in Robot Learning*, RSS 2024, Delft, Netherlands.
- 09/2024 **Mobile Manipulation Skills & Why We Need Them**, *Distinguished Speaker*, ICRA40, Rotterdam, Netherlands.

Recent Talks

- 03/2022 **Intelligent human-centered robotic assistants**, *University of Würzburg*, Germany, (online).
- 06/2022 **Robot learning for intelligent assistants**, *University of Technology Nuremberg*, Germany.
- 06/2022 **Towards intelligent robotic assistants: learning, planning and control**, *invited talk at Bristol Robotics Laboratory*, UK.
- 11/2022 **On the role of Structure in Robot Learning of manipulation skills**, *invited talk at University of Osaka*, Japan.
- 11/2022 **Shaping robotic assistance through structured robot learning**, *invited talk at RIKEN AI Project*, Japan.
- 11/2022 **Towards intelligent robotic assistants: learning, planning and control**, *Autonomy talks by Frazzoli's group, ETH*, Zurich, online-scheduled.
- 12/2022 **Shaping robotic assistance through structured**, *invited talk at Free University of Bozen - Bolzano*, Italy.
- 2/2023 **Structuring learning for real robots**, *Cornell Robotics Seminar (online)*.
- 3/2023 **Structuring learning for real robots**, *Lulea Technical University*, Sweden.
- 4/2023 **Structuring learning for real robots**, *NYU*, USA.
- 4/2023 **Structuring learning for real robots**, *Columbia University*, USA.
- 4/2023 **Advancing Robotic Embodied Intelligence through Structured Robot Learning**, *CMU, USA (online)*.

Mentoring Events

- 11/2024 **Keynote speech**, *EmpowerHER+*, Berlin, Germany.
- 10/2023 **Women in Engineering lunch and cocktail events**, *IROS 2023*, Detroit, USA.
- 05/2022 **Women in Engineering Cocktail event**, *ICRA 2022*, Philadelphia, USA.
- 04/2022 **Girls Day: Artificial Intelligence and Medicine**, *Organized by Department of Computer Science, TU Darmstadt and hessian.AI*, online.
- 05/2022 **Women in Engineering, Science and Tech**, *Organized by IEEE Women in Engineering German section*, online.
- 07/2022 **Increasing Access to Robotics**, *Organized by CMU RISS RobotLaunch*, online.
- 04/2019 **Athens Science Festival**, *Robotics workshop for children aged 8-12*, Athens, Greece.
- 2013-2019 **European Researcher's night**, *Representing the Intelligent Robotics and Automation Lab, Historic Building of NTUA*, (once a year) Athens, Greece.

Media coverage

- 01/2021 **Interview at the local newspaper "Demokratiki Rodou"**, *Greece*.
- 03/2021 **Interview at the hessian magazine "Mathilde"**, *Germany*.
- 03/2021 **Interview at the TV Program "Creta today"**, *Greece*.
- 03/2021 **Interview at the blog "Tilos news"**, *Greece*.
- 03/2021 **Interview at the radio program "All World Greece"**, *national radio Proto Thema*, *Greece*.
- 03/2021 **Interview at the radio program "Greeks Abroad"**, *national radio ERT*, *Greece*.

- 03/2021 **Interview at the radio program "Dodecanese" of the local radio ERT-Dodecanese, Greece.**
- 04/2021 **Interview at the radio program "Good Morning with Alpha" of the national radio Alpha Radio, Greece.**
- 05/2021 **Interview at the Radio Darmstadt, Germany.**
- 05/2021 **Interview at the radio program "Künstliche Intelligenz – die Nachwuchstalente kommen aus Hessen ", Germany.**
- 03/2022 **Interview at the national newspaper "To Vima", issue on *Female pioneers you need to know*, Greece.**
- 03/2022 **Interview at the TV Program "Creta today", *International Women's Day*, Greece.**
- 04/2022 **Interview at the TV Program "Kipseli" Channel ERT2 National Greek Television, Greece.**
- 09/2022 **Perspectives on Digitalization: Video Portrait by Hessen Schafft Wissen, Germany, <https://www.youtube.com/watch?v=qA4AKJDwdNI>.**
- 01/2023 **Interview at the radio program "The Voice of Greece", national radio ERT, Greece.**
- 05/2023 **Interview on mobile assistive robots, learning, and planning for the Podcast Robot Talk, UK-RAS, UK.**
- 07/2023 **Interview on Safety and AI - can robots predict safety situations? for the Industrial AI Podcast, Germany.**
- 09/2024 **Highlighted ERC Starting Grant project by the ERC press, link: <https://erc.europa.eu/news-events/news/starting-grants-2024-examples-projects>.**

Languages

Greek	Native Speaker
English	Proficient (C2)
German	Upper Intermediate (B2)
French	Upper Intermediate (B2)

List of Publications

Journals

- [1] Niklas Wilhelm Funk, Erik Helmut, **Georgia Chalvatzaki**, Roberto Calandra, and Jan Peters. Evetac: An event-based optical tactile sensor for robotic manipulation. *IEEE Transactions on Robotics (TRO)*, 2024.
- [2] Vignesh Prasad, Lea Heitlinger, Dorothea Koert, Ruth Stock-Homburg, Jan Peters, and **Georgia Chalvatzaki**. Learning multimodal latent dynamics for human-robot interaction. *IEEE Transactions on Robotics (TRO)*, 2024 (under review).
- [3] Vignesh Prasad, Alap Kshirsagar, Dorothea Koert, Ruth Stock-Homburg, Jan Peters, and **Georgia Chalvatzaki**. Moveint: Mixture of variational experts for learning human-robot interactions from demonstrations. *IEEE Robotics and Automation Letters (RA-L)*, 2024.
- [4] **Georgia Chalvatzaki**, Ali Younes, Daljeet Nandha, An Thai Le, Leonardo FR Ribeiro, and Iryna Gurevych. Learning to reason over scene graphs: a case study of finetuning gpt-2 into a robot language model for grounded task planning. *Frontiers in Robotics and AI*, 10:1221739, 2023.
- [5] Snehal Jauhri, Jan Peters, and **Georgia Chalvatzaki**. Robot learning of mobile manipulation with reachability behavior priors. *IEEE Robotics and Automation Letters (RA-L)*, 2022.
- [6] Tuan Dam, **Georgia Chalvatzaki**, Jan Peters, and Joni Pajarinen. Monte carlo robot path planning. *IEEE Robotics and Automation Letters (RA-L)*, 2022.
- [7] Boris Belousov, Bastian Wibranek, Jan Schneider, Tim Schneider, **Georgia Chalvatzaki**, Jan Peters, and Oliver Tessman. Robotic architectural assembly with tactile skills: Simulation and optimization. *Automation in Construction*, 133:104006, 2022.
- [8] George Moustris, Nikolaos Kardaris, Antigoni Tsiami, **Georgia Chalvatzaki**, Petros Koutras, Athanasios Dometios, Paris Oikonomou, Costas Tzafestas, Petros Maragos, Eleni Efthimiou, Xanthi Papageorgiou, Stavroula-Evita Fotinea, Yiannis Koumpouros, Anna Vacalopoulou, Effie Papageorgiou, Alexandra Karavasili, Foteini Koureta, Dimitris Dimou, Alexandros Nikolakakis, Konstantinos Karaiskos, and Panagiotis Mavridis. The i-walk lightweight assistive rollator: First evaluation study. *Frontiers in Robotics and AI*, 8:272, 2021.
- [9] Christian Werner, **Georgia Chalvatzaki**, Xanthi S Papageorgiou, Costas S Tzafestas, Jürgen M Bauer, and Klaus Hauer. Assessing the concurrent validity of a gait analysis system integrated into a smart walker in older adults with gait impairments. *Clinical Rehabilitation*, 33(10):1682–1687, 2019. PMID: 31131630.
- [10] **Georgia Chalvatzaki**, Xanthi S Papageorgiou, Petros Maragos, and Costas S Tzafestas. Learn to adapt to human walking: A model-based reinforcement learning approach for a robotic assistant rollator. *IEEE Robotics and Automation Letters (RA-L)*, 4(4):3774–3781, 2019.
- [11] **Georgia Chalvatzaki**, Xanthi S Papageorgiou, Costas S Tzafestas, and Petros Maragos. Augmented human state estimation using interacting multiple model particle filters with probabilistic data association. *IEEE Robotics and Automation Letters (RA-L)*, 3(3):1872–1879, 2018.

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- [12] Tianyu Ren, **Georgia Chalvatzaki**, and Jan Peters. Extended task and motion planning of long-horizon robot manipulation. *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2024.
- [13] Snehal Jauhri, Ishikaa Lunawat, and **Georgia Chalvatzaki**. Learning any-view 6dof robotic grasping in cluttered scenes via neural surface rendering. *Conference on Robotics Science and Systems (RSS)*, 2024.

- [14] Gabriele Tiboni, Pascal Klink, Jan Peters, Tatiana Tommasi, Carlo D’Eramo, and **Georgia Chalvatzaki**. Domain randomization via entropy maximization. *International Conference on Learning Representations (ICLR)*, 2024.
- [15] Aryaman Reddi, Maximilian Tölle, Jan Peters, **Georgia Chalvatzaki**, and Carlo D’Eramo. Robust adversarial reinforcement learning via bounded rationality curricula. *International Conference on Learning Representations (ICLR)*, 2024—**Spotlight Paper**.
- [16] Snehal Jauhri, Sophie Lueth, and **Georgia Chalvatzaki**. Active-perceptive motion generation for mobile manipulation. *IEEE International Conference in Robotics and Automation (ICRA)*, 2024.
- [17] Yasemin Göksu, Antonio De Almeida Correia, Vignesh Prasad, Alap Kshirsagar, Dorothea Koert, Jan Peters, and **Georgia Chalvatzaki**. Kinetically constrained human-like bimanual robot-to-human handovers. In *Companion of the 2024 ACM/IEEE International Conference on Human-Robot Interaction*, 2024.
- [18] Fabian Hahne, Vignesh Prasad, Alap Kshirsagar, Dorothea Koert, Ruth Maria Stock-Homburg, Jan Peters, and **Georgia Chalvatzaki**. Transition state clustering for interaction segmentation and learning. In *Companion of the 2024 ACM/IEEE International Conference on Human-Robot Interaction*, 2024.
- [19] An T Le, **Georgia Chalvatzaki**, Armin Biess, and Jan Peters. Accelerating motion planning via optimal transport. In *Thirty-seventh Conference on Neural Information Processing Systems (NeurIPS)*, 2023.
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- [22] Ali Younes, Simone Schaub-Meyer, and **Georgia Chalvatzaki**. Entropy-driven unsupervised keypoint representation learning in videos. *International Conference on Machine Learning (ICML)*, 2023.
- [23] An T Le, Kay Hansel, Jan Peters, and **Georgia Chalvatzaki**. Hierarchical policy blending as optimal transport. *Proceedings of Machine Learning Research – L4DC*, 2023.
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- [28] Snehal Jauhri, Jan Peters, and **Georgia Chalvatzaki**. Robot learning of mobile manipulation with reachability behavior priors. *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) – Best paper award in Mobile Manipulation*, 2022.
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- [35] Niklas Funk, **Georgia Chalvatzaki**, Boris Belousov, and Jan Peters. Learn2assemble with structured representations and search for robotic architectural construction. *Conference on Robot Learning (CoRL)*, 2021.
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- [40] Nikolaos Gkanatsios, **Georgia Chalvatzaki**, Petros Maragos, and Jan Peters. Revisiting grasp map representation with a focus on orientation in grasp synthesis. In *Workshop on Visual Learning and Reasoning for Robotic Manipulation, Robotics Science and Systems (RSS)*, 2020.
- [41] **Georgia Chalvatzaki**, Petros Koutras, Antigoni Tsiami, Costas S. Tzafestas, and Petros Maragos. i-walk intelligent assessment system: Activity, mobility, intention, communication. In Adrien Bartoli and Andrea Fusiello, editors, *Computer Vision – ECCV 2020 Workshops*, pages 500–517, Cham, 2020. Springer International Publishing.

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- [44] **Georgia Chalvatzaki**, Xanthi S Papageorgiou, Petros Maragos, and Costas S Tzafestas. Learn to adapt to human walking: A model-based reinforcement learning approach for a robotic assistant rollator. In *2019 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2019.
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- [64] Carlo D'Eramo, Fabian Wahren, and **Georgia Chalvatzaki**. Efficient task sampling and shared knowledge in multi-task reinforcement learning. In *The Multi-disciplinary Conference on Reinforcement Learning and Decision-Making (RLDM) 2022*, 2022.
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- [69] Xanthi S Papageorgiou, Costas S Tzafestas, Petros Maragos, Georgios Pavlakos, Georgia **Chalvatzaki**, George Moustris, Iasonas Kokkinos, Angelika Peer, Bartłomiej Stanczyk, Evita-Stavroula Fotinea, et al. Advances in intelligent mobility assistance robot integrating multimodal sensory processing. In *International conference on universal access in human-computer interaction*, pages 692–703. Springer, Cham, 2014.
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