Intelligent and Interactive Systems

Making robots learn to perceive and act with understanding

At IIS we enable autonomous robots to perceive and act flexibly and robustly in unstructured environments, leveraging machine learning methods to build perceptual, motor and reasoning skills.

We seek to answer the question: *How can we enable robots to acquire the knowledge and understanding they require to interact sensibly with unstructured environments?*

Our research addresses complete perception-action loops, from computer vision to grasping and manipulation, using reactive algorithms and/or cognitive models. Much of our work uses machine learning to enable robots to synthesize and improve complex and robust sensorimotor behavior with experience. Related areas of interest include human-robot interaction, image and video analysis, and visual neuroscience.

Working With Us

- Check our thesis topics for Bachelor and Master students.
- ELLIS PhD Program: Call for Applications

Group picture taken at our retreat in Obergurgl

News

2021-01-28	Matteo Saveriano gives an invited talk *Making robots to learn from human observation?* at [Showcasing Young Austrian Scholars and Scientists, Austrian cultural forum, Ottawa](#), online.
2021-01-14	Matteo Saveriano gives an invited talk *Hierarchical action decomposition and motion learning for the execution of manipulation tasks* at [Hello Tyrol calling! Robotics Talk online, GMAR, Innsbruck](#), online.
2020-11-19	Justus Piater gives an invited talk *Machine Learning in Robotics* at [bAlome PI Talk, Center for Biomedical AI, University Medical Center Hamburg-Eppendorf](#), online. [Abstract]
2020-11-20	Simon Haller-Seeber and Patrick Lamprecht present a show *Explainable AI: A sneak peek into the Black-Box* at [Science Slam](#), online.
2020-09-30	Erwan Renaudo contributes a talk *ROSSINI: RobOt kidS deSIgn thiNkIng* at [Robotics in Education 2020](#), online.
2020-06-22	Justus Piater gives an invited talk *Conditional Neural Movement Primitives* at [GdR ISIS Réunion Apprentissage et Robotique](#), online. [Abstract]
2020-06-03	Justus Piater appears in the media: Wie der Roboter denken lernt.
2020-01-29	Justus Piater gives an invited talk *Digital Science* at [Vortragsreihe „Primers for Predocs – Strategien für eine erfolgreiche Promotion"](#), Universität Heidelberg. [Abstract]
2020-01-20	Joanna Chimiak-Opoka, Carina König, and Justus Piater appear in the media: [Ergänzung Digital Science erfolgreich gestartet – UIBK Newsroom](#).
2020-01-03	Justus Piater gives an invited talk *Künstliche Intelligenz: Grundlagen, Erfolge, Herausforderungen* at 47. Tagung des Innsbrucker Kreises von MoraltheologInnen und SozialethikerInnen, Innsbruck.

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