

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.



Group picture taken at our retreat in Obergurgl

Working With Us

Check our thesis topics for [Bachelor and Master students](#).

News

- 2018-04-24 Justus Piater gives an invited talk *Intelligente Roboter – Freund, Feind oder Hirngespinnst?*, [Popular science talk within the WissensDurst series](#), Innsbruck, Austria.
- 2018-04-11 Justus Piater is a panelist at a public discussion on *AI – Wird der Mensch ersetzbar?*, [organized by the Faculty of Law and the European Law Students' Association Austria](#) in Innsbruck, Austria.
- 2018-04-10 Philipp Zech, Justus Piater, and Cornelia Vidovic appear in the media: [Roboter bauen? Ist ja kinderleicht](#) .

- 2018-02-09 Simon Haller and Nicolas Stolz teach a tutorial *Digitale Selbstverteidigung: Security und Privacy im Internet*, Safer Internet Tag, Jugendzentrum Tivoli.
- 2017-12-13 Simon Haller teaches a tutorial *Build your own Mini Robot*, AK Informatiklehrer, Universität Innsbruck.
- 2017-12-01 Justus Piater appears in the media: [Frage der Tradition. Interview about Open Access publishing by Zukunft Forschung](#), the science and research magazine of the University of Innsbruck.
- 2017-11-24 Justus Piater gives an invited talk *Scale Up Machine Learning, And Cognition Will Emerge. Will It?*, [EUCognition Meeting](#), Zürich, Switzerland.
- 2017-11-15 Simon Haller teaches a tutorial *Digitale Kompetenzen entwickeln mit Micro:Bits, Calliope Mini und Co*, [Programm EduMediaLab 2017](#), Universität Innsbruck.
- 2017-11-09 Simon Haller and Philipp Zech teach a tutorial *Wie kann ein Roboter lernen, die Welt zu verstehen?*, [VWA- und Diplomarbeitentag](#), Universität Innsbruck.
- 2017-10-05 Justus Piater gives an invited talk *Open-Ended Robot Learning: First Steps and Next Challenges*, [The Third International Workshop on Intrinsically Motivated Open-ended Learning \(IMOL 2017\)](#), Rome, Italy.

[Older News](#)

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Last update: **2018/09/03 14:57**

