# 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

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| 2018-04-24 | Justus Piater gives an invited talk *Intelligente Roboter – Freund, Feind oder Hirngespinst?*, 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. |
| 2017-12-13 | Simon Haller teaches a tutorial *Build your own Mini Robot*, AK Informatiklehrer, Universität Innsbruck. |

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| 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. |

Older News

# Press

- Wie Robin gelernt hat, einen Turm zu bauen - Der Standard (May 1, 2016)
- ORF, Austria's public TV and radio service, reports on our work in the context of the Xperience and SQUIRREL projects (21.4.2016, in German):
  - Ö1 Wissen aktuell (radio)
  - Tirol heute (TV)
  - tirol.orf.at News (text + teaser video)
- Hier sind die Roboter - News (April 16, 2016, in German)
- Fast wie Science Fiction: Ein Roboter, der lernt wie ein Kind - Tiroler Tageszeitung (February 3, 2016, in German) features Emre Ugur's work on stacked learning.
- Eine Kamera als Sehhilfe (iPoint 06.02.2015, in German)
- #tiroltvvideo { display: none; } #tiroltvvideo:target { display: block; }
  Robotik an der Uni Innsbruck - TirolTV vom 1 Dezember 2014
- #raivideo { display: none; } #raivideo:target { display: block; }
  RAI Südtirol - Tagesschau vom 12 Juli 2014
- Roboter, die von Menschen lernen - (iPoint 03.01.2014, in German)
- Learning from the Brain - UIBK news 21/11/2012 reports on 2DSIL, a biologically-inspired model of shape representation.
- Stille Welt - Gehörlos in Tirol - the Tyrolean street newspaper reports on the SignSpeak project. (20er, pp. 6-7, April 2012, in German)
- Übersetzungslücken schließen - the UIBK supplement to an Austrian newspaper reports on our SignSpeak project (wissenswert 18 pp. 16-17, February 2012, in German)
- Schlaue Roboter im Haushalt (iPoint 13.04.2011, in German)
- Roboter lernen lernen (zukunft forschung 2/2010, in German)

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**How to find us:** See the directions.