Austrian Research Institute for Artificial Intelligence

ABOUT   NEWS   EVENTS   RESEARCH ▾   PUBLICATIONS   PEOPLE

Österreichisches Forschungsinstitut für Artificial Intelligence (OFAI)

Brigitte Krenn
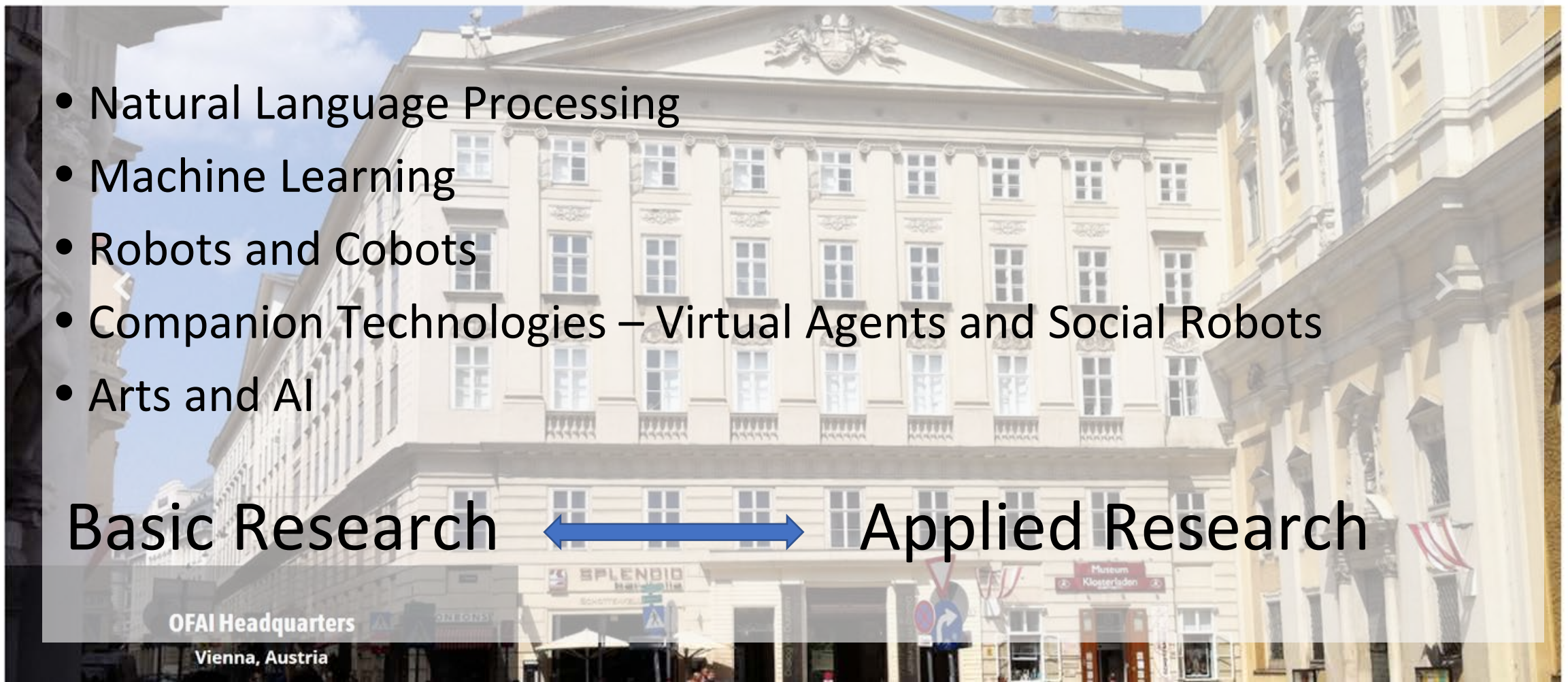Freyung 6, 1010 Wien
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Vienna, Austria

Austrian Research Institute for Artificial Intelligence

https://www.ofai.at

ABOUT   NEWS   EVENTS   RESEARCH ▾   PUBLICATIONS   PEOPLE

- Natural Language Processing

- Machine Learning

- Robots and Cobots

- Companion Technologies – Virtual Agents and Social Robots

- Arts and AI

Basic Research ⟷ Applied Research

OFAI Headquarters
Vienna, Austria

2 Examples from our Work on Bias

Assess Gender Bias in LMs

- Our approach
  - fine-tuning of pretrained foundational model (BERT base) with more or less sexist data
- Test resulting models for gender bias
  - Vocabulary – which words are added to the vocabulary of the foundational model
  - Model outputs
    - use mask filling templates, e.g., | Women see value in [MASK].
    - qualitatively analyse the words generated for the masks/prompts
    - note: it makes a difference when looking only at single word with highest probability per template or at the lists of words with a certain coverage, e.g., the top 30% of the probability mass of the generated words

Sexism Classification

- derStandart.at – Austrian newspaper

- Support forum moderators to maintain a non-sexist discussion climate in online news paper forums

- Train classifiers to automatically detect sexist/misogynous comments in order to help moderators to
  - quickly identify forums with increasing sexist comments
  - detect individual sexist posts

- Account for the newspaper's forum policy and netiquette

- Deal with subtle forms of sexism/misogyny

DERSTANDARD

Diskurs   International   Inland   Wirtschaft   Web   Sport   Panorama   Kultur

B. Krenn, J. Petrak, M. Kubina, Ch. Burger (2024) „GERMS-AT: A Sexism/Misogyny Dataset of Forum Comments from an Austrian Online Newspaper", in proc. of the 2024 Joint International Conference on Computational Linguistics, Language Resources and Evaluation (LREC-COLING 2024), pages 7728–7739, Torino, Italia. ELRA and ICCL.

Shared task @ KONVENS 2024
„GermEval2024 GerMS-Detect on Sexism Detection in German Online News Fora"
Shared task workshop: 10 Sept. 2024, Vienna
https://konvens-2024.univie.ac.at/program/

PAUL SAILER-WLASITS T25

Kultur

KOMMENTAR DER ANDEREN

KOMMENTAR

More on Modelling Human Language and Communication

Text-To-Speech (TTS)

Modeling Austrian standard and dialect speakers (Viennese, Bad Goisern, Innervillgraten) using FastSpeech 2

New possibility: **Shift speaker from standard to dialect**

How?

1.) Extract dialect embeddings

– wav2vec system trained on 436k hours of speech. Finetuned for Language Identification (LID)

2.) Jointly train TTS

See examples for dialect/variant embeddings and variant adaptation under: https://sociolectix.org/ttssigul23/

Fig.: Visualization of language embeddings from European languages

L. Gutscher, M. Pucher, V. Garcia (2023) "Neural Speech Synthesis for Austrian Dialects with Standard German Grapheme-to-Phoneme Conversion and Dialect Embeddings", in Proc. Special Interest Group on Under-resourced Languages (SIGUL), Aug. 2023, Dublin.

L. Gutscher, M. Pucher (to appear 2024) „Exploring Phonetic Features in Language Embeddings for Unseen Language Varieties of Austrian German", in Proc. Of KONVENS 2024, 10-13. Sept., Vienna, Austria
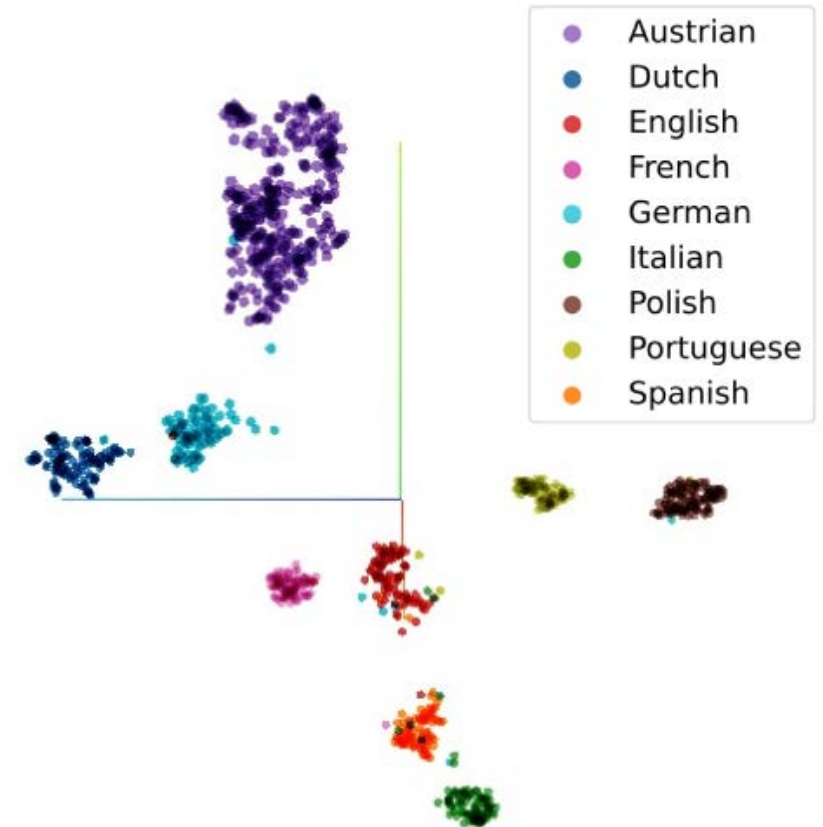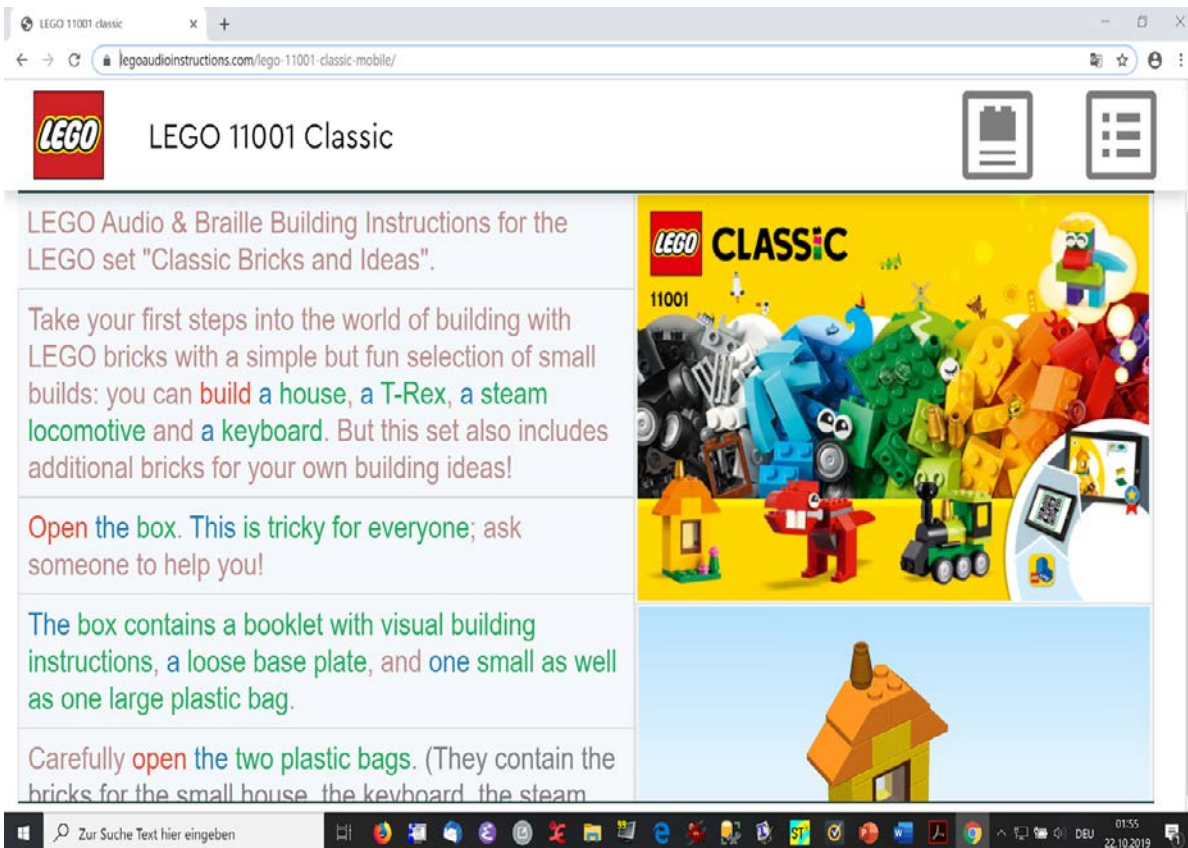
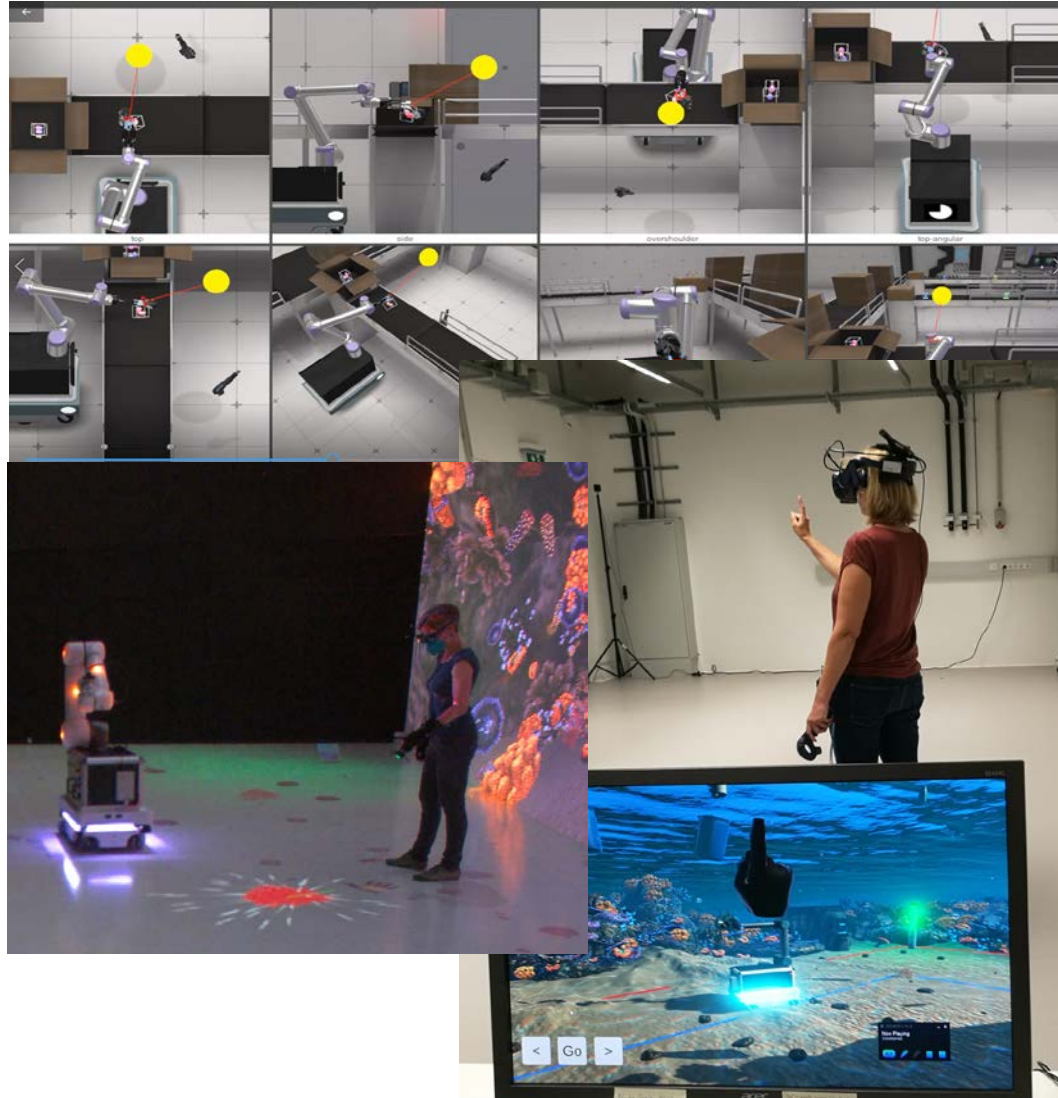# Lego Audio Instructions for Visually Impaired

- Linguistic analysis of verbal building instructions

- Creation of verbal and phrasal resources

- Modelling of xml-coded Lego-internal representations

- Mapping of lexical resources into building steps

- Generation of verbal utterances per building step

- Text to Speech

https://legoaudioinstructions.com/   https://www.ofai.at/projects/lego

Robots and Cobots

Human-R/Cobot Collaboration

- **CoBot Studio – Crossing Realities for Mutual Understanding in Human-Robot Teams**

Gross, S., & Krenn, B. (2023). A Communicative Perspective on Human–Robot Collaboration in Industry: Mapping Communicative Modes on Collaborative Scenarios. *International Journal of Social Robotics*, 1-18.
https://www.ofai.at/projects/cobotstudio

Arts & AI

DANCR

- Researching a robotic system as an improvisation partner
in contemporary dance

Eva-Maria Kraft ©Michael Loizenbauer

https://h-a-u-s.org/index.php/2023/10/31/project-dancr-and-dancr-tool-accomplished/

The Unexpected: Researching effects of deep fakes on humans

- Making fotos alife,
e.g., Deep Nostalgia

- Personal enhancement,
e.g., Remini

- Hyperrealism

- Real →← Fake

https://www.myheritage.at/deep-nostalgia

© Pamela Breda, https://app.remini.ai

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Conference Announcement:
KONVENS 2024

Konferenz zur Verarbeitung natürlicher Sprache/Conference on Natural Language Processing (KONVENS 2024)

- **Vienna, Austria** from **September 10 to 13, 2024.**

Shared task @ KONVENS 2024

- „GermEval2024 GerMS-Detect on Sexism Detection in German Online News Fora"

- Shared task workshop: 10 Sept. 2024, Vienna, Radetzkystrasse 2 (BMK)

https://konvens-2024.univie.ac.at/program/

https://konvens-2024.univie.ac.at/registration/