Maturing Artificial Intelligence – Data Science for Real-World Applications

Introduction to AI-DSRWA@Patterns 2022

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PADERBORN UNIVERSITY

IARIA

Chair

Joschka Kersting

➢ Education in Business an applied Computer Science

➢ Dual studies working in the industry, e.g., **CRM-IT** of arvato Bertelsmann

➢ PhD Computer Science (to be)

➢ Distinguished Researcher @ Paderborn University: On-the-Fly Computing

➢ ~20 publications in **applied data science** topics, e.g.:

  ➢ Information extraction & applied deep learning

  ➢ Industry-related projects

  ➢ "***Human Language Comprehension in Aspect Phrase Extraction with Importance Weighting***"

Challenge

Growing data – enhanced AI reseach

The world's data is growing rapidly

DeFi is taking off, Recent Advance-ments in AI

AI can be used with all the data available

But **how** can we realize real-world **AI applications**?

But: Nearly **no training data** available & industry applications **not public**

Challenge

Previous approaches focus on **theoretical applications**

AI developments are on the rise

⚡

Data **not** available,
Industry topics **not** public,

the **same tasks are tackled**

➤ Most studies use the **same datasets,** tackle the **same scenarios**

➤ **E.g., in Sentiment Analysis, implicit aspect** mentions are **neglected**

➤ **How** can we process information **as it is** for **scenarios of the "real world"**?
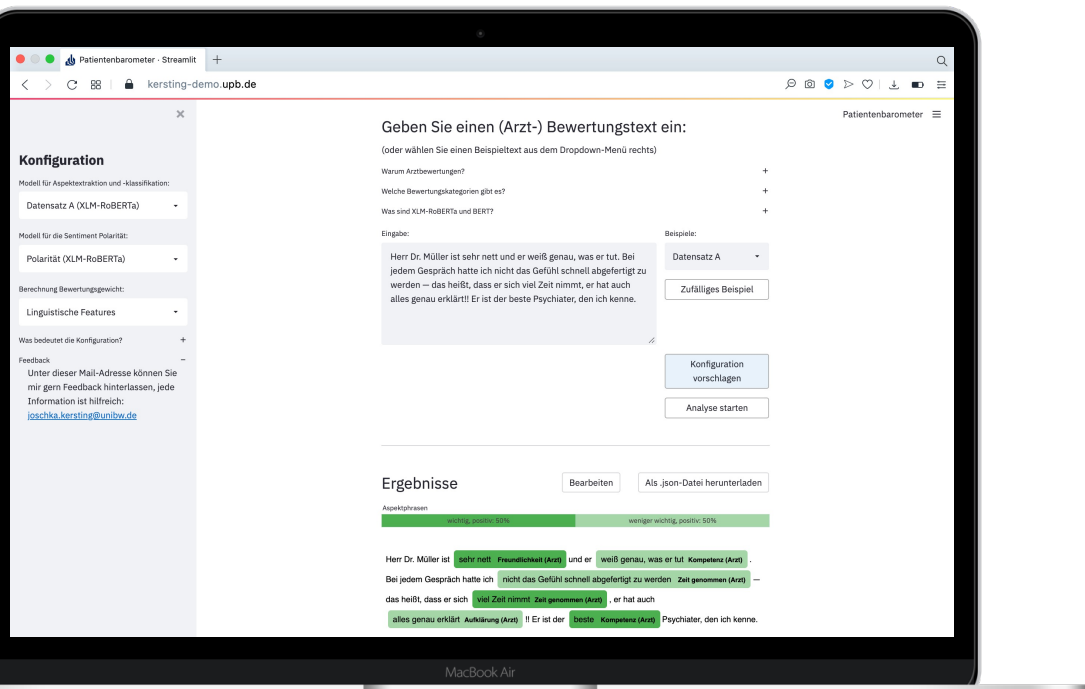
Examples

What is **not yet** researched?

Cases from industry and everyday application

➢ Implicit aspect phrases – Definition and automatic extraction

➢ The "no data challenge" related to domain-specific machine translation in SMEs

➢ Inference system for fault detection in production planning

➢ Track me if you can – finding users across social network platforms

Solutions

Build simple frontends – rapid application

🖅 **MVP with Streamlit**

✨ **Type text, configure deep learning pipeline (or get suggestions)**

⊞ **Get structured information**

Future Challenges

Do we need to systemize?

Is a system of established tasks necessary?

➢ How can we boost **open-minded** research for **real-world scenarios**?

➢ What must be done to bring AI to **"traditional"** industries (production, etc.)?

➢ Can we get into the large AI organizations or is there **no interest**?

➢ How must a task or challenge be **defined**?

Thank you for your interest.

You may ask your questions; I am glad to answer them.

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