Information Extraction
Topics

CIS, LMU München
Winter Semester 2022-2023

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Information Extraction – Reminder

- Vorlesung
  - Learn the basics of Information Extraction (IE), **Klausur – only on the Vorlesung!**
- Seminar
  - Deeper understanding of IE topics
  - Each student who wants a Schein will have to make a presentation on IE
    - New: 3 (sub-)presentations on a single topic, each are 9 minutes (LaTeX, PowerPoint, Keynote)
  - THIS MAY CHANGE A LITTLE AS I MAKE THE SCHEDULE!
    - If so, I will tell you this next time in the Vorlesung
- Hausarbeit
  - 4 page "Ausarbeitung" (an essay/prose version of the material in the slides), **due 3 weeks after the Referat**
  - **One Hausarbeit per student, submitted separately, per email!**

Administravia I

- Please send me an email with your preferences
  - Starting at 18:00 on *Thursday* (tomorrow!)
  - The email sender *must* CC the other two students!
  - Please say your names
  - Specify which language you will present in
  - Emails will be processed in the order received
  - Emails received before 18:00, even one minute before, will be processed later, this is the only fair way to allocate topics
  - You can specify multiple topics (ranked)
- Last topics assigned on Wednesday next week, this is the deadline!

Administravia II

- You can look at the seminar web page as I update it, click the refresh button in your browser due to possible caching problems
- First seminar topics are in three weeks

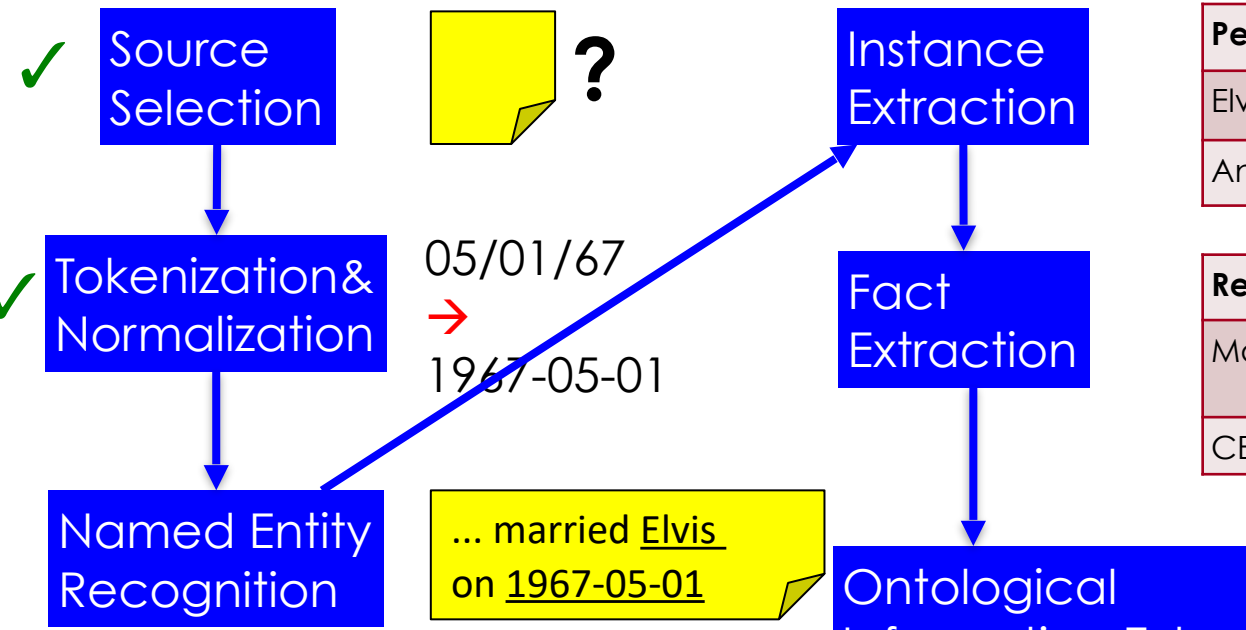
Administravia III

- Please check that all laptops being used can actually project with the **projector in the seminar room**
- Rehearse the talk so that you know it really ends after 9 minutes each. I will cut you off shortly after this time limit!
- PLEASE DO NOT FORGET THE SLIDE NUMBERS!

- Questions?

Information Extraction

Information Extraction (IE) is the process of extracting **structured information** from unstructured machine-readable documents



Person Name	Person Type
Elvis Presley	musician
Angela Merkel	politician

Relation	Entity1	Entity2
Married	Elvis Presley	Priscilla Beaulieu
CEO	Tim Cook	Apple

Tip of the hat: Suchanek

- Some of my topics must be in English

- Two common pitfalls:
  - Please provide the motivation for your topic!
  - PLEASE DO NOT FORGET SLIDE NUMBERS!

History of IE

- TOPIC: History of IE, shared tasks
- Three different workshop series:
  - MUC
  - ACE
  - TAC
  - These workshops worked on Information Extraction, funded by US but a large variety of research groups participated
  - Discuss problems solved, motivations and techniques
  - Survey the literature
  - Present the specific 2020 task and the best system:
    - **Epidemic Question Answering (EPIC-QA) 2020**
  - **Optionally present alternative systems**
- MUST BE IN ENGLISH

Named Entity Recognition – Entity Classes

- TOPIC: fine-grained open classes of named entities
  - Survey proposed schemes of fine-grained open classes, for example:
    - Extended Named Entity Hierarchy (2002). Satoshi Sekine, Kiyoshi Sudo, Chikashi Nobata. LREC. May, Canary Islands, Spain.
    - BBN's classes used for question answering
    - Improving Multilingual Named Entity Recognition with Wikipedia Entity Type Mapping (2016). Jian Ni, Radu Florian. EMNLP, pages 1275-1284. Austin, Texas, USA.
  - Discuss the advantages and disadvantages of the schemes
  - Discuss also the difficulty of human annotation – can humans annotate these classes reliably?
  - How well do classification systems work with these fine grained classes?
- MUST BE IN ENGLISH

Event Extraction – Disasters in Social Media

- TOPIC: Extracting Information during a disaster from social media (e.g., Twitter)
  - What sorts of real-time information extraction can be done using social media?
  - What are the entities detected?
  - How is the information aggregated?
  - How can the information be used?
- PAPER: please select a 2021 or 2022 paper as the final primary source, use the citation chain to find at least two previous papersI

Coreference

- Coreference systems have made many improvements recently.
- This topic will discuss the basic problem of coreference, then present several papers on recent work on coreference systems
- Suggested third paper:
- Vladimir Dobrovolskii (2021). Word-Level Coreference Resolution. EMNLP
  - https://arxiv.org/abs/2109.04127

- (Dr. Viktor Hangya, Katharina Hämmerl, Wen Lai)

Choosing a topic

- Any questions?
- I will put these slides on the seminar page later today
- Please email me with your choice of topics (FOR ALL TOPICS!), starting at *18:00* Thursday
  - Do not forget to include the presentation language (and your names!)
  - Do not forget to CC your co-presenters
- If you are emailing later, check the seminar web page first to see if the topic is already taken!

- Thank you for your attention!