

# Diachronic Language Models

## Lecture 1 - Kick off

Dr. Wei Zhao 15/10/2024

# Lecturers

## Who are we

- Dr. Wei Zhao
  - PhD in NLP at TU Darmstadt
  - Postdoc at HITS
  - Lecturer at University of Aberdeen and Heidelberg University
- Yi Fan
  - PhD student at HITS and Heidelberg University

# Feedback

## It is your course

- Your feedback is important
- Constructive criticisms are welcome
- We will post anonymous feedback form when the time comes.

# Organization

## About resources and communication

- Github for lecture slides and literature
  - <https://github.com/andyweizhao/diacrms>
- Discord communication
  - <https://discord.gg/FqU8VJ86KS>
- Contact
  - [diachronic.hd@gmail.com](mailto:diachronic.hd@gmail.com)
- Talk to us: in-person, discord, email anytime

# Organization

**To pass the course, you need**

- 50% term paper
- 25% mid-term presentation
- 25% final presentation
- Deadline for term paper:
  - preliminary version: 18, March, 2024
  - final version: 25, March, 2024

# Organization

## Term paper

- 3-5 students work in group on the relevant topics
  - Joint and independent work
  - Coordination
- 8 pages of content + unlimited pages of references.
- Template: <https://www.overleaf.com/1476718452xshrqqpjvkvm#47a63b>
- Workload: 2-4 hours per week
- Supervision?

# Organization

## Presentation

- Each group presents project results for 30 minutes
  - Each project member presents independent work for 8-10 minutes
- 15 minutes for Q&A

# Organization

## How to structure your presentation

- Motivation
- Research Questions
- Methodology
- Dataset(s)
- Results and data analyses
- Conclusions



# Organization

## How we evaluate your presentation

- Clarity: clear and easy-to-understand
- Entertainment: tables, figures to communicate complex ideas and findings
- Performance in Q&A
  - Answers should be concise and direct.

# Organization

## How we evaluate your term paper

- Readability: Is the paper easy to follow and well-structured?
- Substance: content is substantial, with your own arguments, ideas and results?
- Soundness: your claims/arguments are factual?
- Novelty: your ideas are simple, clever?
- Structure: intro, research questions, method, results and analyses, conclusions..
- Example 1: <https://aclanthology.org/C18-1325.pdf>
- Example 2: <https://aclanthology.org/W19-4722.pdf>

# Topics for Term Papers

## A list of topics

- Automatic Dictionary Induction
  - Discover novel senses uncovered by OED
  - with Dominik Schlechtweg from Stuttgart University
- Causality for temporal biases in LLMs
  - Relationship between (a) dates formatting, compression rate and (b) model hallucination, answer confidence, next word prediction, etc
  - with Maxime Peyrard from Université Grenoble Alpes
- Temporal code generation
  - Generate changes in codebase for addition, modification and deletion, based on Github comments

# Topics for Term Paper

## Choose your topic

- Email us with your preferred topic
  - Deadline: 21 Oct, 2024
- We will divide you into groups.
- Let us and your peer students know timely if you want to quit.

# Plagiarism

## This is Forbidden!

- With any plagiarism, you will fail the course.
- Some examples of plagiarism (<https://www.plagiarism.org/article/what-is-plagiarism>)
  - Appropriation of words and ideas from other people without giving credit
- Writing supporting tools are permitted, but how and where you use them should be clarified.
- Know why you are here.