

Teach4NLP 2023

The 1st Workshop on Teaching for NLP

Proceedings of the Workshop

September 18, 2023

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Introduction

These proceedings are a collection of the papers presented at the KONVENS Teaching for NLP (Teach4NLP) Workshop in Ingolstadt, Bavaria, Germany, on September 18, 2023. Teaching Natural Language Processing (NLP) and Computational Linguistics (CL) has always been complex and challenging due to the many facets and sub-areas involved in these highly interdisciplinary subjects. In recent years, this challenge has further intensified as a result of the rapid technical advancements these fields have undergone (e. g., the advent of large generative language models capable of generating human-like texts). The rapid pace of this progress has not only massively increased the awareness of NLP and CL among the general public, but also poses a number of salient questions from an educational point of view, including the following:

- Have recent advancements made other, more “traditional” NLP techniques obsolete, meaning that they should be dropped from our curricula? If so, which ones? For example, does the dominance of transformer models mean that recurrent neural networks do not have to be taught anymore?
- Out of the currently emerging methods and technologies, which ones will turn out to be “fads” and which ones will stand the test of time – and thus should be included in a curriculum? For example, should NLP educators today take the time to explain Reinforcement Learning from Human Feedback (RLHF) in detail?
- Does the growing number of easy to use, off-the-shelf NLP tools reduce the need to know about specific technical details of NLP pipelines (e. g., what a tokenizer is and why one is needed)? In relation to this, is our focus mainly on teaching the next generation of researchers, or rather expert users of NLP systems?
- Many state-of-the-art systems today are trained in a purely end-to-end fashion and rely very little (if at all) on linguistic concepts and abstractions. Does this mean that NLP curricula should spend less time and effort on teaching these linguistic ideas?

Apart from these “technical” questions, there are also many arising issues relating to the ethical and societal implications of working with language technology that need to be addressed in teaching. For example, how can we ensure that our models do not reproduce harmful stereotypes, or that they respect the privacy of their users? How can we properly address the need for systems and data in less-resourced languages – or even any language other than English?

Finally, due to the increasing prominence of NLP and CL in recent years, student populations in our courses are becoming increasingly heterogeneous: Students may come from different social and cultural backgrounds, may study a range of subjects at different levels of experience, and may be interested in different application scenarios. How can we design courses and teaching materials that best cater to such diverse audiences? More specifically, how can we best accommodate students who have little to no technical experience, and how is it possible to motivate those students who feel that their teacher’s answers to these questions may be inadequate?

All of these issues can feel overwhelming even to experienced teachers, and more so to newcomers to our field. As a result, we were motivated to organize a workshop that allows us to exchange experiences, best practices, and suggestions for how best to teach NLP and CL in various settings and address the challenges described above (as well as many others not mentioned here). In addition, being co-located with KONVENS, a secondary motivation was to bring together educators who are either involved in the German academic system, are teaching to German-speaking audiences in other contexts, or are dealing with the German language as part of their curricula. Our hope is that our meeting can serve as one step

towards building a collection of resources and a community that offers mutual support in questions of teaching and exchange ideas on how to tackle the challenges we face when teaching NLP.

**The Workshop Organizers:
Annemarie Friedrich, Stefan Grünewald, Margot Mieskes, Jannik Strötgen, Christian Wartena**

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Conference Program

Wednesday, June 29, 2005

8:45–9:00 *Opening Remarks*

9:00–10:00 *Invited Talk by John Doe*

9:00–10:00 **Session 1: Important Matters Unresolved**

Session 1: Important Matters Resolved

10:00–10:30 *Including a contemporary NLP application within an introductory course: an example with student feedback from a University of Applied Sciences*
Saurabh Kumar and Alessandra Zarcone

10:00–10:30 *Democratizing Machine Learning for Interdisciplinary Scholars: Reflections on the NLP+CSS Tutorial Series*
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