

## **LING 227: Language and Computation (T. Biro)**

### **Project-based term paper (10-15 pages) in lieu of the final exam**

Undergraduate students can opt for writing a term paper *instead* of the final scheduled on May 2. The term paper is also **due May 2, 9:00 am**, and serves the same purpose: students will have to demonstrate that they will have acquired the knowledge and skills belonging to the learning objectives of the course. These include familiarity with computational linguistic problems arising at different linguistic levels (phonetics, phonology, morphology, syntax, semantics and discourse), in different speech and language technology tasks, as well as various approaches available to handle them, measures to evaluating these approaches, and several further concepts. The term paper will be graded along these criteria. Not all, but several (and all relevant) aspects of the course should be covered.

The *recommended* structure of the paper should follow the structure of a typical article in computational linguistics. Possibly (but not necessarily) as part of a language technology application (e.g., machine translation, information extraction, or grammaticality checker), you formulate a research topic (e.g., anaphora resolution, or named entity recognition). This part of the paper offers you a chance to demonstrate your familiarity with different linguistic levels and various aspects of a complex problem. Subsequently, you will shortly discuss existing solutions to the problem based on the literature, proving your understanding of these solutions. Then, you turn to discussing the chosen approach more in details, also referring to your implementation, hereby showing your relevant programming skills. Before presenting the results of the computational experiment(s), the paper will argue for the use of that specific method. Once the results will have been obtained, the paper should compare the performance of your method to alternative approaches, and analyze the reasons why the proposed method is better or worse. (A negative result is also a result, and so you should not worry if your results are worse.) Finally, the obtained results will be put back into the larger context.

As all term papers, this paper should also include references conform to the usual academic standards. It is highly recommended, moreover, that you amply refer to all relevant chapters of the textbook, demonstrating your familiarity with it. You should look up at least a few of the references mentioned in the textbook, and eventually also search for more recent results.

A 1-2 page prospectus is due **March 7**. Papers and accompanying code (with some documentation) are due **May 2**. Feel free to contact me regarding your project ideas, or with any further question.