

## HUMAN LANGUAGE TECHNOLOGY A RESEARCH FIELD AT THE INTERSECTION OF LINGUISTICS & COMPUTER SCIENCE

Human Language Technology is a rapidly developing research field. In current Humanities research, a firm background in language technology is extremely valuable for manipulating large datasets. The Computational Lexicology and Terminology Lab (CLTL) offers a specialization in the research master Humanities in which students are trained in human language technology. A human language technology expert has knowledge of technology as used in computer applications (e.g. search engines) and of relevant linguistic theories.

### WHY STUDY AT VU AMSTERDAM?

The Computational Lexicology and Terminology Lab (CLTL) is one of the world's leading research institutes in human language technology. Prof. Dr. Piek Vossen, recipient of the NWO Spinoza Prize, heads

the group of international researchers that are working on interdisciplinary projects, including the Spinoza project 'Understanding Language by Machines'. Become part of an international group of researchers at VU Amsterdam!

### CAREER PROSPECTS

You can set up your own research direction as a PhD student or you can embark on a career at a research institute. The industry provides many career opportunities, as there is a growing need for linguists with a technical background.

### ADMISSION REQUIREMENTS

- Applicants must have a Bachelor's degree in Linguistics, Artificial Intelligence or a comparable Bachelor programme, with an average grade of minimally 7.5.
- Applicants who do not meet the requirement(s) are also encouraged to apply, provided that they have a sound academic background and a demonstrated interest in and knowledge of engineering and/or linguistics.



"IN THIS DEGREE I DISCOVERED HOW LANGUAGE REALLY WORKS; FIGURE IT OUT ONCE AND THEN TEACH THE COMPUTER!"

Chantal van Son, PhD student at the Computational Lexicology and Terminology Lab (CLTL) [WWW.CLTL.NL](http://WWW.CLTL.NL)

HUMAN LANGUAGE TECHNOLOGY  
HUMANITIES RESEARCH MASTER  
DURATION: 2 YEARS FULLTIME  
DEADLINE: APRIL 1 (NON-EU STUDENTS)  
1 JUNE FOR DUTCH AND EU STUDENTS

### SCHOLARSHIPS

We are proud to offer support for highly motivated and excellent students:

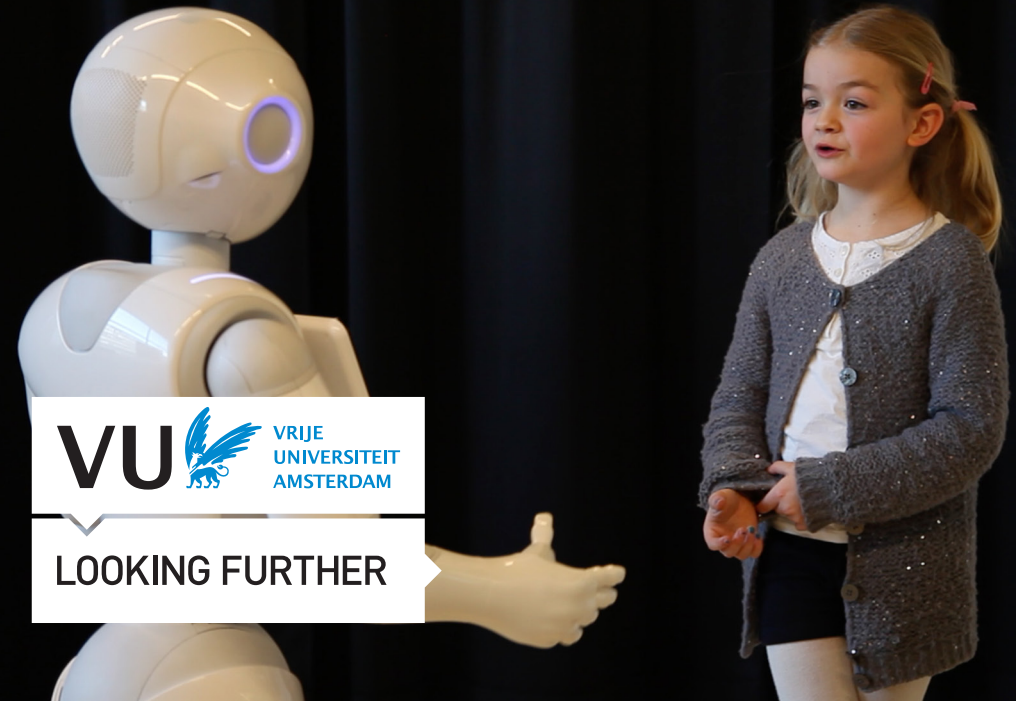
- \* The VU Fellowship Programme (VUFP) for EU and non-EU students
- \* The Graduate School of Humanities offers three scholarships for excellent students from the Netherlands and other EU countries

Application date:

## HUMANITIES RESEARCH MASTER

## HUMAN LANGUAGE TECHNOLOGY

[WWW.VU.NL/HUMANITIES](http://WWW.VU.NL/HUMANITIES)



**VU**  **VRIJE  
UNIVERSITEIT  
AMSTERDAM**

LOOKING FURTHER

YEAR 1	PERIOD 1	PERIOD 2 & 3	PERIOD 4	PERIOD 5 & 6
<b>CORE COURSE GENERAL LINGUISTICS (9 EC)</b> This is an advanced introduction to grammatical notions and theories that are used as analytical tools in applied linguistics. You will deepen knowledge of grammatical theory & of current approaches to phonology, morphology and syntax.	<b>DIGITAL &amp; ENVIRONMENTAL HUMANITIES (6 EC)</b> You will be introduced to the history and philosophy of the Humanities, the VU research environment and cross-cutting themes such as Digital Humanities and Environmental Humanities. How can we connect Humanities research with societal challenges?	<b>HUMANITIES IN SOCIETY (6 EC)</b> This is the first Humanities research design course: you will train to position yourself in an international research field and learn to design and present innovative Humanities research. You will also take active part in the lectures of the Graduate School of Humanities.	<b>TERM PAPER (9 EC)</b> Writing a research paper forces you to define the boundaries of your research. Secondly, it helps organize your ideas and present them in a cohesive and logical form. You will be guided through this process and receive detailed feedback on your paper.	
<b>RESEARCH PROJECTS (6 EC)</b> You explore NLP research by collaborating with different researchers from our group, interview them, read background literature and write a report. You will learn about exciting international projects at the frontier of science.	<b>PYTHON PROGRAMMING FOR TEXT ANALYSIS (9 EC)</b> You learn the basic skills for developing your own computer programs and run these from a command line. We gently submerge you into the world of Python with a strong focus on text processing.	<b>NATURAL LANGUAGE PROCESSING TECHNOLOGY (9 EC)</b> NLP is a highly dynamic research field that requires knowledge of both linguistics and technology. You will acquire the tools needed to carry out research in NLP covering both theory and practical skills involved in state-of-the-art approaches.	<b>NETHERLANDS RESEARCH SCHOOL OF LINGUISTICS (10 EC)</b> All students enrol in a Humanities National Research School at the start of their study. You may choose a selection of courses, master classes, summer or winter schools for 10 EC - over 2 years in periods 3 & 6.	

YEAR 2	PERIOD 1	PERIOD 2 & 3	PERIOD 4	PERIOD 5 & 6
<b>COMPUTATIONAL LEXICON (6 EC)</b> In this course, you will learn about the most influential lexicons in the world. WordNet and FrameNet not only capture major properties of languages, but are also widely used in Natural Language Processing and language technology.	<b>HUMANITIES RESEARCH CAREER PREPARATION (6 EC)</b> Through intensive training and supervision, you will learn to write a research proposal for (inter)national science foundations, and learn to design and position an innovative Humanities research project.	<b>THESIS (30 EC)</b>		

<b>SUBJECTIVITY MINING (6 EC)</b> Subjectivity is part of reality and this is especially apparent in language. You will learn how to model subjectivity relations in text and how to automatically detect and analyze subjectivity in large text collections such as tweets, news, and product reviews.	<b>MACHINE LEARNING (6 EC)</b> NLP algorithms based on machine learning are widely used for the understanding of language by machines and in analyzing big data. You will become familiar with the principles behind supervised and unsupervised techniques and learn to apply the tools and algorithms in research projects.
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MORE INFORMATION	LEGEND:
Human Language Technology is a track of the Humanities Research Master, specialization Linguistics For more details on the programme, admission and application: <a href="http://WWW.VU.NL/HUMANITIES">WWW.VU.NL/HUMANITIES</a> <a href="http://WWW.CLTL.NL/HLT">WWW.CLTL.NL/HLT</a> Dr. H. D. van der Vliet Email: <a href="mailto:h.d.vander.vliet@vu.nl">h.d.vander.vliet@vu.nl</a>	<ul style="list-style-type: none"> <li><span style="color: red;">■</span> Obligatory for all students of the VU Humanities Research Master</li> <li><span style="color: blue;">■</span> Obligatory for all students of the Linguistics Research Master specialization</li> <li><span style="color: black;">■</span> Courses in the track Human Language Technology</li> <li><span style="color: green;">■</span> Optional courses: summer/winter school at a National Research School</li> </ul>