



A Sequence Classification Framework for Human Language Technology

Fact Sheet

Project Information

SEQCLAS

Grant agreement ID: 694537

DOI

[10.3030/694537](https://doi.org/10.3030/694537)

Project closed

EC signature date

11 July 2016

Start date

1 August 2016

End date

31 July 2021

Funded under

EXCELLENT SCIENCE - European Research Council (ERC)

Total cost

€ 2 500 000,00

EU contribution

€ 2 500 000,00

Coordinated by

RHEINISCH-WESTFAELISCHE
TECHNISCHE HOCHSCHULE
AACHEN



Germany

Objective

This project will develop a unifying framework of novel methods for sequence classification and thus make a major break-through in automatic speech recognition and machine translation, advancing these areas of human language technology (HLT) beyond state-of-the-art. Despite the huge progress made in the field, the specific aspect of sequence classification has not been addressed adequately in the past research in these disciplines and remains a big challenge. The proposed project will provide a novel framework under consistent consideration of the leading aspect of sequence classification. It will break the ground for a deeper, more comprehensive foundation for sequence classification and pave the way for a new generation of

algorithms that will put human language technology on a more solid basis and that will accelerate progress in the field across several disciplines.

The leading research objectives are: 1. A novel theoretical framework for sequence classification. 2. Consistent sequence modeling across training and testing, which is specifically lacking in machine translation. 3. Adequate sequence-level performance-aware training criteria to learn the free parameters of the models. 4. Investigation of (true) unsupervised training for HLT sequence classification: its principles, its prerequisites, its limitations and its practical usage. The study of these four problems will provide key enabling techniques for HLT sequence classification in general that will carry over to and create high impact on the areas of speech recognition, machine translation and handwritten text recognition. Using our top-ranking research prototype systems, we will verify the validity and effectiveness of our research on public international benchmarks.

Fields of science (EuroSciVoc)

[humanities](#) > [languages and literature](#) > [general language studies](#)

[natural sciences](#) > [computer and information sciences](#) > [databases](#)

[natural sciences](#) > [computer and information sciences](#) > [artificial intelligence](#) > [computer vision](#) > [image recognition](#)

[natural sciences](#) > [computer and information sciences](#) > [artificial intelligence](#) > [machine learning](#) > [deep learning](#)

[natural sciences](#) > [computer and information sciences](#) > [artificial intelligence](#) > [computational intelligence](#)



Programme(s)

[H2020-EU.1.1. - EXCELLENT SCIENCE - European Research Council \(ERC\)](#)

MAIN PROGRAMME

Topic(s)

[ERC-ADG-2015 - ERC Advanced Grant](#)

Call for proposal

[ERC-2015-AdG](#) 

[See other projects for this call](#)

Funding Scheme

[ERC-ADG - Advanced Grant](#)

Host institution



RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

Net EU contribution

€ 2 500 000,00

Total cost

€ 2 500 000,00

Address

TEMPLERGRABEN 55

52062 Aachen

 **Germany** 

Region

Nordrhein-Westfalen > Köln > Städteregion Aachen

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Beneficiaries (1)



RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

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Total cost

€ 2 500 000,00

Last update: 6 September 2024

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