

# DENNIS FUCCI

PhD Student in Natural Language Processing

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## RESEARCH INTERESTS AND EXPERIENCE

My research interests include: (1) **Speech-to-text** tasks (Speech Translation and Automatic Speech Recognition), (2) **Machine Translation**, (3) **foundation models** and **Large Language Models**, (4) **gender bias** mitigation, and (5) **Explainable AI**.

As demonstrated in the list of Selected Publications (for other publications see my [Scholar Profile](#)), my experience includes collecting data, implementing code solutions, and conducting experiments, as well as analyzing speech signals.

## EDUCATION

- 2021 – present **PhD in Information Engineering and Computer Science**  
University of Trento – Fondazione Bruno Kessler (Trento, Italy)  
Specialization in *Natural Language Processing*. Advisor: Matteo Negri, co-advisor: Luisa Bentivogli.
- 7/2022 **The 13th Lisbon Machine Learning School (LxMLS 2022)**  
Instituto Superior Técnico and Instituto de Telecomunicações (Lisbon, Portugal).
- 10/2019 - 4/2020 **Postgraduate courses on Big Data**  
Region of Emilia-Romagna and European Social Fund.  
• *Basics of statistics, mathematics and database management* (80 hours)  
• *Machine Learning & Video analytics* (80 hours)  
• *Deep Learning - Artificial Intelligence - Natural Language Processing* (156 hours)
- 2016 – 2019 **MA in Humanities**  
University of Bologna (Bologna, Italy). Final grade: 110 cum laude. Specialization in *Computational Linguistics* and *Acoustic Phonetics*.
- 2013 – 2016 **BA in Humanities**  
University of Bologna (Bologna, Italy). Final grade: 110 cum laude. Specialization in *Linguistics*.

## SKILLS

- Languages **English – C1 (IELTS 7), French – B1, Spanish – A2, Italian – native.**
- Programming **Python, Bash, HTML5/CSS.**
- Frameworks **PyTorch, TensorFlow, Fairseq, HuggingFace.**
- Tools **Git, Docker, Slurm, LaTeX.**
- Cloud **AWS.**
- Software **Praat, Audacity, Elan.**

## GRANTS AND AWARDS

- 2019 **CLUB (Circolo Linguistico dell'Università di Bologna) Award for the best MA thesis in linguistics of 2018/2019** ([link](#)).
- 12/2018–1/2019 **Study Grant for Dissertation Research Abroad (Universitat Autònoma de Barcelona, Spain).**
- 9/2015–2/2016 **Erasmus+ Grant at Université Catholique de Louvain la Neuve, Belgium.**

## SELECTED PUBLICATIONS

- EMNLP 2023 **Integrating Language Models into Direct Speech Translation: An Inference-Time Solution to Control Gender Inflection**  
D. Fucci, M. Gaido, S. Papi, M. Cettolo, M. Negri, L. Bentivogli  
*Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing* [to appear]  
[Arxiv paper](#) [Code](#)
- EMNLP 2023 **Hi Guys or Hi Folks? Benchmarking Gender-Neutral Machine Translation with the GeNTE Corpus**  
A. Piergentili\*, B. Savoldi\*, D. Fucci, M. Negri, L. Bentivogli  
*Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing* [to appear]  
[Arxiv paper](#) [Code](#)
- ASRU 2023 **No Pitch Left Behind: Addressing Gender Unbalance in Automatic Speech Recognition Through Pitch Manipulation**  
D. Fucci, M. Gaido, M. Negri, M. Cettolo, L. Bentivogli  
*IEEE Automatic Speech Recognition and Understanding Workshop* [to appear]  
[Arxiv paper](#) [Code](#)
- GITT 2023 **Gender Neutralization for an Inclusive Machine Translation: from Theoretical Foundations to Open Challenges**  
A. Piergentili\*, D. Fucci\*, B. Savoldi, M. Negri, L. Bentivogli  
*Proceedings of the First Workshop on Gender-Inclusive Translation Technologies*  
[Paper](#)