Giulio Cusenza

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Education

Apr 2025 - present
- **Master in Artificial Intelligence & Machine Learning @ Technical University Darmstadt**

Oct 2021 - Oct 2024
- **Bachelor in Computational Linguistics @ University of Tübingen**
  *Graduated with a final grade of **1.18 (A+)** with the thesis* "On the difficulty of using Contextual Word Embeddings to Measure Political Polarisation in Parliamentary Speech" *([link]).*

Jun 2021
- **Classical high school degree @ Liceo Classico Umberto I**
  *Graduated with **100/100** (key subjects: **Latin, Ancient Greek, Philosophy**) in Palermo, Italy.*

Experience

Jan 2024 - May 2024
- **Intern in Data & Technology @ MHP – A Porsche Company**
  *Automated company processes by applying **Machine Learning** and **NLP** to **Robotic Process Automation** with UiPath.*

Oct 2022 - Dec 2023
- **Programming teaching assistant @ University of Tübingen**
  ***Tutored over 70 students** in the courses "Data structures and algorithms for computational linguistics" **I, II (Java)** and **III (python)**.*

Apr 2023 - Sep 2023
- **Research assistant @ University of Tübingen**
  *Worked on a project on the **automatic identification** of **language borrowing** and **contact** through NLP and bioinformatic methods (DFG Center for Advanced Studies "[Words, Bones, Genes, Tools]").*

Skills

IT:
- **Python** (advanced), **Java** (intermediate).
- Machine learning projects with **pytorch**.
- Experience with **regex**, **context-free** grammars, and **finite state automata**.
- Experience with web development: **HTML**, **CSS**, **JS**, Firebase ([example]).
- Familiarity with **bash**, **R**, **SQL**, **Prolog**.
- Version control: **Git**.
- Media: **Microsoft Office**, **Google Workspace**, **LaTeX**.

Languages:
- Spoken: **Italian** (native), **English** (C2), **French** (C1), **Russian** (B2), **German** (B2).
- Natively understood: **Sicilian**, **Arbëresh**.
- Written: **Latin**, **Ancient Greek**.
- Basic: Dutch, Spanish, Korean.

Other: philosophy | literary analysis

Traits: curious | creative | detail-focused | committed | communicative

Publications

- Giulio Cusenza and Çağrı Çöltekin. 2024. NLP for Arbëresh: How an Endangered Language Learns to Write in the 21st Century. In *Proceedings of the 3rd Annual Meeting of the Special Interest Group on Under-resourced Languages @ LREC-COLING 2024*, pages 252–256, Torino, Italia. ELRA and ICCL.

Projects

Arbor	*Website with self-developed NLP tools (spellchecking, conjugation…) for the extremely low-resourced Arbëresh language spoken in Southern Italy.*	Arbor link
Measuring Polarisation with Word Embeddings	*Study on the challenges of measuring parliamentary polarisation through contextual word embeddings.*	GitHub link
Question tagger model	*Training of a question labelling model based on Hugging Face Transformers.*	CO link
FST spell checker	*Probabilistic spell checker built on weighted finite state transducers (python implementation).*	GitHub link
Kneser-Ney bigram model	*Python program to train a word-bigram model with Kneser-Ney smoothing for next-word prediction and sentence generation.*	GitHub link

Awards

Deutschlandstipendium (scholarship)	*"The Deutschlandstipendium supports talented and high-performing students. In addition to first-class grades, social commitment and personal achievements are also considered for the award."*	Bundesministerium für Bildung und Forschung link