

# ENRICO BENEDETTI

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## EDUCATION

- PhD candidate**, Utrecht University Sept 2024 – present  
**Topic:** *Computational thinking, learning to program and generative artificial intelligence.*
- M.Sc. in Artificial Intelligence**, University of Bologna Sept 2021 – Mar 2024  
**CGPA:** 28.8/30; **Final grade:** 110/110 with honors.  
**Thesis:** *Example Sentence Suggestion for Learners of Japanese as a Second Language Using Pre-Trained Language Models.*
- B.Sc. in Computer Engineering**, University of Bologna Sept 2018 – Oct 2021  
**CGPA:** 27.7/30; **Final grade:** 107/110.  
**Thesis:** *Theory and methods for solving Cryptography CTF challenges (Capture The Flag).*

## PUBLICATIONS

Enrico Benedetti, Akiko Aizawa, and Florian Boudin. Automatically Suggesting Diverse Example Sentences for L2 Japanese Learners Using Pre-Trained Language Models. In *The 62nd Annual Meeting of the Association for Computational Linguistics : Proceedings of the Student Research Workshop*, volume 4, pages 114–131, Bangkok, Thailand, August 2024. Association for Computational Linguistics, ACL. [paper](#) | [code](#)

## WORK EXPERIENCE

- Bonfiglioli** Bologna, Italy  
*Intern* June 2024 – August 2024
- Worked on LLM-based interfaces for data analysis and table recognition applications.
- National Institute of Informatics** Tokyo, Japan  
*Research intern* Sept 2023 – Feb 2024
- Proposed and worked on a project investigating how to improve the quality of example sentences for language learners using LLMs.
  - The main research contributions included a corpus of over 12M sentences, generative and retrieval models, human evaluation experiments and detailed analysis of the collected data.
  - Participated in the lab's weekly activities, such as seminars and reading groups with other researchers, and gave presentations.

## PROJECTS

- AICamp – Text-to-Image** | [GitHub](#) June 2023
- Research survey for the MAI4CAREU project in collaboration with the University of Cyprus.
  - Presented and discussed the main sota approaches for the Text-to-Image task, GANs and Diffusion models.
- GarfieldRetrieve: a Deep Metric Learning approach for Retrieving comic strips** | [GitHub](#) Feb 2023
- Curated a dataset of Garfield transcribed comic strips, to perform semantic retrieval.
  - Built a retrieval system with Deep Metric Learning and Sentence Transformers, comparing with other methods.
- Human Value Detection with a Hierarchical Deep Learning approach** | [GitHub](#) Feb 2023
- Team project in NLP on SemEval 2023 Task 4. ValueEval: *Identification of Human Values behind Arguments.*
- Part-of-speech Tagging with RNNs** | [GitHub](#) Nov 2022
- Implemented POS tagging using different architectures based on Recurrent Neural Networks.
  - Wrote an article detailing analysis of results and performance.
- 1D Barcode Quality Verification** | [GitHub](#) Sept 2022
- Project for the Image Processing & Computer vision course. A Jupyter notebook and scripts for barcode localization and quality assessment.
  - It can produce an analysis according to the IEEE barcode readability guidelines for multiple images at once.

### Capacitated Vehicle Routing Problem | [GitHub](#)

Aug 2022

- Team project for the Combinatorial Optimization course.
- Implemented and documented solving strategies and models for CVRP using Constraint Programming, boolean SAT solving, SAT Modulo Theories and Mixed Integer Programming frameworks.

### League of Legends Bayesian Network | [GitHub](#)

April 2022

- Built a Bayesian Network model of League of Legends competitive match statistics, used to perform inference about win or loss and more match parameters.
- Worked on data preprocessing and feature selection.

## SKILLS

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**Languages:** Italian (native), English (fluent), Japanese (beginner), French (beginner), Dutch (beginner)

**Programming languages:** Python, LaTeX, Java, C, C#, JavaScript, HTML, CSS, Bash, SQL, Prolog, C++, MiniZinc

**Frameworks, Engines, Libraries, etc.:** TensorFlow, PyTorch, pandas, Hugging Face, spaCy, OpenCV, Unity, z3, Git, UNIX/Linux, Visual Studio Code, GIMP, DaVinci Resolve