ENRICO BENEDETTI

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EDUCATION

PhD candidate, Utrecht University *Sept 2024 – present*
Topic: *Supporting computational thinking skills when learning to program with 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. Supporting teaching and learning computational thinking skills with generative ai in computing education. In *Proceedings of the 30th ACM Conference on Innovation and Technology in Computer Science Education V. 2*, ITiCSE 2025, page 806–807, New York, NY, USA, 2025. Association for Computing Machinery. paper

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

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