

LUCA MALAGUTTI

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Education

ETH Zurich **Sep. 2020 – Aug. 2023**
MSc in Computer Science *Zurich, Switzerland*

- Overall grade: 5.41/6.0
- Selected courses: Natural Language Processing, Advanced Machine Learning, Machine Perception, Big Data.

Politecnico di Milano **Sep. 2017 – Jul. 2020**
BSc Engineering of Computing Systems *Milan, Italy*

- Final grade: 110/110
- Selected courses: Probability and Statistics, Linear Algebra, Algorithms and Principles of Computer Science.

Work Experience

Thomson Reuters Labs **Apr. 2024 – Present**
Applied Research Intern *Zug, Switzerland*

ETH Zurich **Oct. 2023 – Mar. 2024**
Research Assistant *Zurich, Switzerland*

- Research assistant under the supervision of Prof. Ryan Cotterell.

SEI Novus **Mar. 2022 – Sep. 2022**
Data Science Intern *Zurich, Switzerland*

- Built from scratch a complete NLP pipeline for automatic data extraction from financial documents.

Teaching Experience

Natural Language Processing **2021, 2022, and 2023**
Teaching Assistant *ETH Zurich*

- Instructor: Prof. Ryan Cotterell
- Wrote lecture notes, held lectures and tutorials, prepared and marked assignments and exam questions over three editions of the course.

Large Language Models **2023**
Teaching Assistant *ETH Zurich*

- Instructors: Prof. Ryan Cotterell, Prof. Mrinmaya Sachan, Prof. Florian Tramèr, and Prof. Ce Zhang
- Prepared and marked assignments and exam questions, held exercise sessions.

Publications

- **Luca Malagutti**, Andrius Buinovskij, Anej Svete, Clara Meister, Afra Amini, and Ryan Cotterell. Bringing n -gram Smoothing in the Age of Neural Networks. *Accepted at NAACL 2024* (Long Paper)
- Clara Meister, Tiago Pimentel, **Luca Malagutti**, Ethan Wilcox, and Ryan Cotterell. On the Efficacy of Sampling Adapters. *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics, 2023*. (Long Paper)
- Afra Amini, Ryan Cotterell, John Hewitt, **Luca Malagutti**, Clara Meister, and Tiago Pimentel. Generating Text from Language Models. *Proceedings of the 61st Annual Meeting of the Association for Computational Linguistics, 2023* (Tutorial Proposal)

Skills

Programming Languages	Python, R, Java, C, SQL, L ^A T _E X
Tools and Frameworks	NumPy, Pandas, SciKit, PyTorch, Huggingface, AWS, Git, Docker
Languages	Italian (native), English (C2 level), German (B1 level)

Selected Projects

Divergences for Natural Language Generation

Oct. 2022 – Apr. 2023

Master's Thesis

Rycolab, ETH Zurich

- Supervision by Ph.D. student Clara Meister and Prof. Ryan Cotterell.
- Explored the use of divergence functions as alternative fine-tuning losses for Natural Language Generation models.

Word Embedding initialization for Knowledge Graph Link Prediction

Feb. 2022 – Jun. 2022

Semester Project

ETH AI Center

- Supervision by Dr. Carl Allen.
- Experimented with improving performance and convergence speed of knowledge graph models through the use of pre-trained neural word embeddings.

Automatic Textbook Summarization

Sep. 2021 – Jan. 2022

Semester Project

NLPED Lab, ETH Zurich

- Supervision by Ph.D. student Kumar Shridhar and Prof. Mrinmaya Sachan.
- Created, analyzed, and modeled a novel dataset for downstream tasks in educational NLP.

Deep-Mon

Feb. 2020 – Jun. 2022

Semester Project

NECST Lab, Politecnico di Milano

- Supervision by Dr. Rolando Brondolin and Prof. Marco Santambrogio.
- Improved an eBPF-based container monitoring tool by implementing its memory, disk, and I/O monitoring capabilities, and creating a new CLI.

Awards

Best Freshmen Award

2018

Politecnico di Milano

- Awarded monetary prize granted to the best-performing freshmen of the 2017-2018 academic year.

University Tuition Scholarship

2018, 2019, and 2020

Politecnico di Milano

- Awarded total (2018) and partial (2019, 2020) tuition reduction granted to high-performing students.