

Silvio Severino

PH.D. STUDENT | NATURAL LANGUAGE PROCESSING AND DEEP LEARNING SCIENTIST

Experience

Amazon - Applied Scientist Intern

- Document-level Machine Translation

Berlin, Germany

Apr. 2024 - Present

Sapienza University of Rome - Researcher

- Researched and implemented Machine Learning and NLP techniques for more efficient Machine Translation inference.
- Researched multimodal models for Text-to-Image generation
- Researched diffusion models for Signal Processing
- Served as a Teaching Assistant for Deep Learning MSc courses

Rome, Italy

Nov. 2021 - Present

Babelscape - NLP Engineer Intern

- Developed a WSD system exploiting the BabelNet graph
- Implemented a Machine Learning and NLP pipeline
- The results of this work have been discussed in my bachelor thesis

Rome, Italy

May. 2018 - Oct. 2018

Education

PhD in Natural Language Processing

Sapienza University of Rome
Advisor: Emanuele Rodolà

Rome, Italy

Nov. 2021 - Nov. 2024

MSc. in Engineering in Computer Science

Sapienza University of Rome - 110/110 with honours
Thesis title: Zero-shot Multilingual Text-to-Image

Rome, Italy

Oct. 2018 - Oct. 2021

BSc. in Engineering in Computer Science

Roma Tre University - 107/110
Thesis title: Lexical disambiguation exploiting the BabelNet graph

Rome, Italy

Oct. 2015 - Oct. 2018

Publications

- Andrea Santilli, **Silvio Severino**, Emilian Postolache, Valentino Maiorca, Michele Mancusi, Riccardo Marin and Emanuele Rodolà. Accelerating Transformer Inference for Translation via Parallel Decoding. In *Proceedings of ACL 2023*.
- Giovanni Trappolini, Valentino Maiorca, **Silvio Severino**, Emanuele Rodolà, Fabrizio Silvestri and Gabriele Tolomei. Sparse Vicious Attacks on Graph Neural Networks. Published in IEEE Transactions on Artificial Intelligence.

Award

2022 **Winner**, Imminent Research Grant. My team and I won a grant to develop our research idea on efficient machine translation. Our project was selected as the winner of the category "Machine Learning Algorithms For Translation" among 70 different proposals submitted by professors and world experts in machine translation.

International

2022 **Winner**, Research Starting Grant . I won a Sapienza grant to explore a cutting-edge research concept fusing neuroscience and NLP.

National

Invited Talk

9th Italian Conference on Computational Linguistics

Venice, Italy

Oral session

Dec. 2023

- Introduced our accepted paper: Accelerating Transformer Inference for Translation via Parallel Decoding.

The 61st Annual Meeting of the Association for Computational Linguistics

Toronto, Canada

Poster session

Jul. 2023

- Introduced our accepted paper: Accelerating Transformer Inference for Translation via Parallel Decoding.

Artificial intelligence and its progress in the present

Rome, Italy

Lesson

May. 2023

- Explained to a Sapienza classroom how a transformer works by doing practical tutorials.

Academic Activities

Program Committee IR-RAG @ SIGIR24, ACL 2023, CLiC-it 2023, EMNLP 2022, NeurIPS 2022

Skills

Programming Python, Java, C, Bash/Shell, SQL, C++ (basic), LaTeX, HTML/CSS

Technologies and Tools PyTorch, TensorFlow, Hydra, Transformers, Git, Linux, Visual Studio, PyCharm, NumPy, HuggingFace

Languages English, Italian

Hobbies Photography, Music

Conference & Workshop

2023	9th Italian Conference on Computational Linguistics	Venice, Italy
2023	The 61st Annual Meeting of the Association for Computational Linguistics	Toronto, Canada
2023	Lectures on Computational Linguistics 2023	Pisa, Italy
2022	4th International Summer School on AI & Games	Chania, Greece
2022	Stanford Graph Learning Workshop 2022	Online
2022	PyTorch Lightning DevCon 2022	Online