MICHELE MANCUSI

Senior Research Scientist @Sony, Ph.D.

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EDUCATION

Ph.D. in Computer Science
Nov 2019 – Jan 2024

Sapienza University of Rome — *Rome, Italy*

Conducted research on Deep Learning, Signal Processing, NLP, and Generative AI, advised by Prof. Emanuele Rodolà.

M.Sc. in Physics
Sep 2016 – Jan 2019

Sapienza University of Rome — *Rome, Italy*

Grade: **110/110 magna cum laude**. Conducted research on Quantum Information with Prof. Fabio Sciarrino.

WORK EXPERIENCE

Senior Research Scientist
Apr 2024 – Present

Sony Europe — *Stuttgart, Germany*

Working in the AI, Speech and Sound Group. Conducting research on deep learning for generative models for speech and audio with LLM and diffusion models.

Visiting Research Scientist
Nov 2023 – Jan 2024

Sony Europe — *Stuttgart, Germany*

Worked with Dr. Stefan Uhlich in the AI, Speech and Sound Group. Conducted research on deep learning for effects removal and timbre transfer with diffusion models.

Research Scientist Intern
Jun 2023 – Sep 2023

Microsoft Research — *Redmond, Washington, USA*

Worked with Dr. Sebastian Braun in the Audio and Acoustics Research Group. Conducted research on deep learning for unsupervised speech separation.

Data Scientist Intern
Sep 2022 – Mar 2023

Musixmatch — *Bologna, Italy*

Worked with Dr. Loreto Parisi in the AI Team. Conducted research on deep learning for singing voice detection.

SELECTED PUBLICATIONS

- **Mancusi, M.**, Mariani, G., Tallini, I., Postolache, E., Cosmo, L., & Rodolà, E. (2024). *Multi-Source Diffusion Models for Simultaneous Music Generation and Separation*. **ICLR 2024 (Oral)**

- Santilli, A., Severino, S., Postolache, E., Maiorca, V., **Mancusi, M.**, Marin, R., & Rodolà, E. (2023). *Accelerating Transformer Inference for Translation via Parallel Decoding*. **ACL 2023**

- **Mancusi, M.**, Postolache, E., Mariani, G., Santilli, A., Cosmo, L., & Rodolà, E. (2023). *Latent Autoregressive Source Separation*. **AAAI 2023**

- **Mancusi, M.**, Zonca, N., Rodolà, E., & Zuffi, S. (2023). *Towards the Evaluation of Marine Acoustic Biodiversity through Data-Driven Audio Source Separation*. **I3DA 2023**

- **Mancusi, M.**, Bonzi, F., Del Deo, S., Melucci, P., Tavella, M. S., Parisi, L., & Rodolà, E. (2023). *Exploiting Music Source Separation for Singing Voice Detection*. **MLSP 2023**

ACHIEVEMENTS

ICLR notable top 1% paper (oral)
2024

ICLR 2024

First-author paper selected among the top 1% submissions for an oral presentation at ICLR 2024

Winner of AWS Cloud Credit for Research
2024

Amazon

Awarded €50,000 in AWS credit for the best generative AI research project

Winner of Imminent Research Grant
2022

Translated's Research Center

Awarded €20,000 for the best machine translation research project

Best Ph.D. Research Project
2020

Sapienza University of Rome

Recognized as one of the top doctoral research projects and awarded research funding

ACADEMIC EXPERIENCE

Teaching Assistant
2023

Sapienza University of Rome — *Rome, Italy*

Lectured at the Deep Learning and Applied AI MSc course and mentored students for their Master's Thesis

Invited Talk
2023

Yale University — *New Haven, Connecticut*

Delivered a guest lecture on the *Latent Autoregressive Source Separation* paper upon the invitation of Prof. Ronald Coifman

TECHNICAL SKILLS

PyTorch · WandB · Lightning · Hydra · AWS SageMaker · Azure ML · Slurm · HTCondor

REFEREES

Prof. Emanuele Rodolà *ERC grantee*
- Sapienza University of Rome
- @ rodola@di.uniroma1.it

Dr. Stefan Uhlich
- Sony
- @ stefan.uhlich@sony.com

Dr. Sebastian Braun
- Microsoft
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