Luca Zhou

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Education

Sapienza University of Rome *2025 –*
PhD in Computer Science
Research Focus: *Modular Deep Learning, Model Merging, and Multitask Learning*

Sapienza University of Rome & CUHK Shenzhen (Exchange) *2023 – 2025*
MSc in Computer Science: AI-centered track   Grade: *110/110 with Honors*

University of Rome Tor Vergata *2020 – 2023*
BSc in Computer Science   Grade: *110/110 with Honors*

Publications

Zhou, L., Yashwante, P., Fisher, M., Sampieri, A., Zhou, Z., Galasso, F., & Yu, R. (2025). Can Language Models Describe Numeric Time Series? *Under Review.*

Zhou, L., Solombrino, D., Crisostomi, D., Bucarelli, M. S., D'Inverno, G. A., Silvestri, F., & Rodolà, E. (2025). On task vectors and gradients. In Proceedings of the *UniReps Workshop at NeurIPS 20255.*

Zhou, L., Solombrino, D., Crisostomi, D., Bucarelli, M. S., Silvestri, F., & Rodolà, E. (2024). Atm: Improving model merging by alternating tuning and merging. In Proceedings of the *Breaking the Monolith Workshop at ICIAP 2025.*

Experience

Research Intern (Hybrid)
Panasonic North America *Jun. 2025 – Dec. 2025 (expected)*
- Contributing to the development of a novel reinforcement learning framework for LLM code generation.
- Working in collaboration with *Stanford University* and *ItalAI*.

Visiting Graduate Student Researcher
Department of Computer Science and Engineering, UC San Diego *Mar. 2025 – May 2025*
- Led a research project on benchmarking VLMs for time series captioning and understanding, working in *Rose STL Lab*, advised by Prof. *Rose Yu*.

Graduate Student Researcher
GLADIA, Sapienza University of Rome *Jun. 2024 – Feb. 2025*
- Investigated novel approaches for model merging and task arithmetic.

Workshop Reviewer
UniReps @ NeurIPS 2024 & 2025

Machine Learning Intern
Reveal SRL, Rome *Aug. 2023 – Dec. 2023*
- Led a predictive analytics project in collaboration with the Italian Union of Chambers of Tourism.
- Implemented and optimized a Transformer model to forecast Italian national tourism trends.

Selected Projects

Transfer Learning of Mathematical Skills in Small LLMs
The Chinese University of Hong Kong (Shenzhen) *Dec. 2024*
- Investigated positive transfer learning among mathematical skills in small LLMs.

A Survey of NLI Downstream Tasks and Universality
Sapienza University of Rome *Jun. 2024*
- A comprehensive investigation of NLI's downstream applications, with additional benchmarks.

A Contrastive Learning Framework for Closed-Set Finger Photo Identification
Sapienza University of Rome *Jan. 2024*
- Developed a biometric recognition system for recognizing subjects based on finger-photos.

LLM-based Explanations for Mitigating the Clever Hans Effect

University of Rome Tor Vergata   *Feb. 2023 – Jul. 2023*

- Designed an explainable AI pipeline to detect and mitigate spurious correlations in datasets.
- Fine-tuned BERT on refined datasets, achieving a 40% accuracy improvement over the baseline model.

Awards

Iliadship Scholarship & Mentorship

Iliad   *2023*

- One of ten yearly recipients nationwide for a merit-based scholarship and mentorship program.

Skills

Programming Languages & Tools: Python, PyTorch, Weights & Biases, Git, C/C++, Java, SQL
Spoken Languages: Mandarin Chinese (Native), Italian (Native), English (Advanced)

Extracurricular Activities

Board of European Students of Technology

University of Rome Tor Vergata   *Feb. 2021 – Jul. 2023*

- Fundraising Coordinator & Internal Relationships