

Luca Zhou

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Education

Sapienza University of Rome PhD in Computer Science Research Focus: <i>Modular Deep Learning, Model Merging, and Multitask Learning</i>	2025 – Present
Sapienza University of Rome & CUHK Shenzhen (Exchange) MSc in Computer Science: AI-centered track	2023 – 2025 Grade: 110/110 with Honors
University of Rome Tor Vergata BSc in Computer Science	2020 – 2023 Grade: 110/110 with Honors

Publications

- Zhou, L.**, Yashwante, P., Fisher, M., Sampieri, A., Zhou, Z., Galasso, F., & Yu, R. (2025). CaTS-Bench: 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 2025*.
- 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 – Present
- Contributing to the development of a novel reinforcement learning framework for Agentic 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.

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 <i>The Chinese University of Hong Kong (Shenzhen)</i>	Dec. 2024
• Investigated positive transfer learning among mathematical skills in small LLMs.	
A Survey of NLI Downstream Tasks and Universality <i>Sapienza University of Rome</i>	Jun. 2024
• A comprehensive investigation of NLI’s downstream applications, with additional benchmarks.	
A Contrastive Learning Framework for Closed-Set Finger Photo Identification <i>Sapienza University of Rome</i>	Jan. 2024
• Developed a biometric recognition system for recognizing subjects based on finger-photos.	
LLM-based Explanations for Mitigating the Clever Hans Effect <i>University of Rome Tor Vergata</i>	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: One of ten yearly recipients nationwide for a merit-based scholarship and mentorship program by *Iliad*.

Visiting Scholarship: One of thirteen yearly recipients of a scholarship for funding MSc students to conduct research in a foreign institution, provided by *Sapienza* University.

Skills

Programming Languages & Tools: Python, PyTorch, Weights & Biases, Git, C/C++, Java, SQL

Spoken Languages: Mandarin Chinese (Native), Italian (Native), English (Advanced)

Services

Workshop Reviewer: UniReps 2024/2025 at NeurIPS

Workshop Volunteer: UniReps 2025 at NeurIPS

Extracurricular Activities

Board of European Students of Technology

University of Rome Tor Vergata

Feb. 2021 – Jul. 2023

- Fundraising Coordinator & Internal Relationships