

# SIMONE BOMBARI

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## EDUCATION

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<b>Institute of Science and Technology Austria</b> · PhD student	2020 - current
<b>Scuola Normale Superiore</b> · Professional master program Final grade: 100/100 <i>cum laude</i>	2015 - 2020
<b>University of Pisa</b> · M.Sc. in physics Final grade: 110/110 <i>cum laude</i>	2018 - 2020
<b>University of Pisa</b> · B.Sc. in physics Final grade: 110/110 <i>cum laude</i>	2015 - 2018

## EXPERIENCE

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<b>University of Southern California</b> · Visiting scholar	2025
<b>G Research</b> · Quant NLP researcher intern	2023
<b>Amazon Web Services</b> · Applied scientist intern	2021-2022
<b>University of California Los Angeles</b> · Visiting graduate researcher	2020
<b>Complex Science Hub</b> · Research Intern	2018

## PUBLICATIONS

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**Privacy for Free in the Overparameterized Regime** Simone Bombari and Marco Mondelli. *Proceedings of the National Academy of Sciences, 2025* - **contributed talk at DeepMath 2024**

**Spurious Correlations in High Dimensional Regression: The Roles of Regularization, Simplicity Bias and Over-Parameterization** Simone Bombari and Marco Mondelli. *ICML 2025* - **best paper award at ICLR SCSL workshop 2025**

**Towards understanding the word sensitivity of attention layers: a study via random features** Simone Bombari and Marco Mondelli. *ICML 2024*

**How Spurious Features are Memorized: Precise Analysis for Random and NTK Features.** Simone Bombari and Marco Mondelli. *ICML 2024*

**Beyond the universal law of robustness: sharper laws for random features and neural tangent kernels.** Simone Bombari, Shayan Kiyani, and Marco Mondelli. *ICML 2023* - **selected as oral**

**Memorization and optimization in deep neural networks with minimum over-parameterization.** Simone Bombari, Mohammad Hossein Amani, and Marco Mondelli. *NeurIPS 2022* - **contributed talk at DeepMath 2022**

**Sharp asymptotics on the compression of two-layer neural networks.** Mohammad Hossein Amani, Simone Bombari, Marco Mondelli, Rattana Pukdee, Stefano Rini. *ITW 2022*

## MISCELLANEA

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ICLR SCSL workshop best paper award	2025
Google PhD fellowship	2024
ICML best reviewer award	2024
ICLR volunteer	2024
ISTA young scientists symposium · Organizer	2023
International mathematical games - HC · 5th position	2017
International physics olympiad · Silver medal	2015
Italian national karate championship · Embu bronze medal	2015

## TALKS

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Applied math colloquium UCLA	2025
Contributed talk at DeepMath	2024
ICML oral presentation	2023
UCLA-MPI MathML Seminar	2023
Austrian Computer Science Day	2023
Contributed talk at DeepMath	2022
Sharif University of Technology EE647: deep learning seminar	2022

## SOCIAL

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Personal website · Scholar · LinkedIn · X · GitHub