Martin Carrasco

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Education

2029 (Expected)	Computer Science, University of Fribourg	ELLIS Ph.D.
2025	Artificial Intelligence, VU Amsterdam	M.S.
2023	Computer Science, Universidad de Ingenieria y Tecnologia	B.S.

Research Interests

Geometric Deep Learning; Graph Theory; Topological Deep Learning; Graph Machine Learning

Publications

M. Carrasco, V. A. Martirosyan, A. Mehrab, C. Netto, E. Okoyomon, and C. Graziani, "Rademacher Meets Colors: More Expressivity, but at What cost?" *New Perspectives in Graph Machine Learning*, 2025.

L. Telyatnikov et al., "TopoBench: A Framework for Benchmarking Topological Deep Learning," 2025. arXiv: `2406.06642 [cs.LG]`.

M. G. Palma, J. Gonzalez, M. Carrasco, R. Rubio-Noriega, K. Bergman, and R. Azevedo, "Internode Message Passing through Optical Reconfigurable Memory Channel," *IEEE Access*, pp. 1–1, 2024.

G. Bernárdez et al., "ICML Topological Deep Learning Challenge 2024: Beyond the Graph Domain," Proceedings of Machine Learning Research, vol. 251, S. Vadgama et al., Eds., pp. 420–428, Jul. 2024.

Submitted Papers

Working Papers

M. Carrasco, G. Bernardez, M. Montagna, N. Miolane, and L. Telyatnikov, "HOPSE: Scalable Higher-Order Positional and Structural Encoder for Combinatorial Representations," 2025. arXiv: `2505.15405 [cs.LG]`.

Presentations

Peer-reviewed conference presentations

M. Carrasco, A. Berentzen, and A. Garcia, *Applications of TopoX to Equivariant Topological Networks*, Geometry-grounded Representation Learning and Generative Modeling Workshop (GRaM) @ ICML, Jul. 2024.

M. Carrasco, A. Berentzen, and A. Garcia, *Applications of TopoX to Equivariant Topological Networks*, Learning on Graphs (LOG) - Amsterdam, Netherlands, Jul. 2024.

Invited presentations

M. Carrasco, G. Bernardez, M. Montagna, N. Miolane, and L. Telyatnikov, *HOPSE: Scalable Higher-Order Positional and Structural Encoder for Combinatorial Representations*, ELLIS Doctoral Symposium - Warsaw, Poland, 2025.

M. Carrasco, G. Bernardez, M. Montagna, N. Miolane, and L. Telyatnikov, *HOPSE: Scalable Higher-Order Positional and Structural Encoder for Combinatorial Representations*, Eastern European Machine Learning Summer School - Sarajevo, Bosnia and Herzegovina, 2025.

Teaching

Teaching Assistant

VU Amsterdam | Computer Science

2025	XM_40012: *Machine Learning for the Quantified Self*
2025	XB_0085: *Text Minig for AI*
2024	XM_0083: *Deep Learning*
	Instructor: Prof. Peter Bloem
	Website/Course materials: DL @ VU
2024	X_400111: *Evolutionary Computing*

Awards, Fellowships, and Honors

Aug 2025	Acceptance (w/ poster presentation) to **ELLIS Doctoral Symposium**	-
Jul 2025	Acceptance and scholarship for **EEML**	300 EUR
Jul 2025	Acceptance and scholarship for the **ELLIS Probabilistic ML school**	250 GBP
Jun 2025	Accepted to **LOGML** on project *"Beyond VC Dimension"*	250 EUR
Nov 2024	Recipient of a visit grant by DDSA (*Danish Data Science Academy*)	500 EUR
Jul 2024	Winner in the TDL Challenge at ICML - Great Contributor	-
Jun 2024	Grant to attend **ICML** and present a poster	500 EUR
Oct 2019	Top 100 recognition @ *IEEE-Xtreme*	-