

# ALEJANDRO GARCÍA CASTELLANOS

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## EXPERIENCE

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### Ph.D. Candidate

Feb. 2024 – Current

*AMLab (Amsterdam Machine Learning Lab), UvA*

*Amsterdam, Netherlands*

- Under the supervision of Erik Bekkers (UvA) and co-supervision of Daniël Pelt (ULEI)
- Generative models and active learning for shapes and segmentation

### Research Engineer

Mar. 2023 – Feb- 2024

*RPL (Division of Robotics, Perception and Learning), KTH*

*Stockholm, Spain*

- Under the supervision of Danica Kragic
- Equivariant representation learning in DL
- Metric learning in generative models
- Steiner tree problem in Hyperbolic geometry

### Trainee Internship

Sep. 2020 – Jan. 2021

*MEDAL laboratory, CTB (Center of Biomedical Technology)*

*Madrid, Spain*

- Application of information recognition algorithms in clinical notes
- Development of new techniques for the recognition of metrics, doses and numbers
- Fine-tuning a BERT model in breast and lung cancer's clinical notes

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## EDUCATIONAL BACKGROUND

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### MSc in Machine Learning

Sep. 2021 – Oct. 2023

*KTH Royal Institute of Technology*

*Stockholm, Sweden*

- Average grade: 4.00 GPA
- Thesis in Topological regularization and relative latent representations

### B.S. in Mathematics and Computing

Sep. 2017 – Jul. 2021

*Universidad Politécnica de Madrid*

*Madrid, Spain*

- Average grade: 9.78/10.0 (4.00 GPA)
- Best academic record of amongst all programs at the ETSIINF (Higher Technical School of Computer Engineers) of the promotion 2020/2021
- Honours granted by UPM in 29 courses
- Three Scholarships for Academic Excellence granted by the Community of Madrid
- Thesis in Robustness of Persistent Homology: the Stability Theorem

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## COMPUTER AND PROGRAMMING KNOWLEDGE

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**Programming:** Python, Java, C, R, SQL, MATLAB, Maple, Prolog, Bash

**ML:** Pytorch, Pytorch Lightning, Tensorflow, (a bit of) JAX

**Computer:** L<sup>A</sup>T<sub>E</sub>X, Git, Microsoft Office, Keynote, Pages (Apple), Adobe Photoshop, Adobe Lightroom

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## LANGUAGES

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**English:** Advanced level (C1), CAE by **Cambridge English**

**Spanish:** Native language

**German:** Low Beginner Level

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## OTHER PERSONAL ASPECTS

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Driving License: B

Own vehicle (in Spain)

I am passionate about learning new applications of geometric, topological, and algebraic methods to analyze or improve the methods of machine learning

Stockholm, February 6, 2024

Alejandro García Castellanos