António **Leitão**

MATHEMATICIAN · DATA SCIENTIST

Portuguese nationality, born 04/07/1996

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EDUCATION

M.Sc. in Data Science and Advanced Analytics *Lisbon, Portugal*

NOVA UNIVERSITY LISBON (INFORMATION MANAGEMENT SCHOOL) *Sep. 2018 - Ongoing*

- Thesis: Topological Expressiveness of Neural Networks
- Supervisor: Dr. Giovanni Petri

Erasmus Studies Program *Göttingen, Germany*

GEORG-AUGUST UNIVERSITÄT *Mar. 2017 - Jun. 2017*

Full scholarship awarded for a 6-months study period at Göttingen University

B.Sc. in Mathematics *Lisbon, Portugal*

NOVA UNIVERSITY LISBON *Sep. 2014 - Aug. 2017*

International Baccalaureate Diploma Programme *Lisbon, Portugal*

COLÉGIO PLANALTO *Sep. 2010 - May. 2014*

PUBLICATIONS

2020	**Giovanni Petri and António Leitão**, "On the Topological Expressive Power of Neural Networks" In: *NeurIPS 2020 Workshop on Topological Data Analysis and Beyond*, `https://openreview.net/forum?id=I44kJPuvqPD`	*Online*
2020	**António Leitão and Giovanni Petri**, "On the Topological Complexity of Decision Boundaries" In: *50th Scientific Meeting of the Italian Statistical Society*, pp. 588-594	*Pisa, Italy*

TEACHING

Masters' of Data Science and Advanced Analytics *Lisbon,Portugal*

NOVA UNIVERSITY OF LISBON (INFORMATION MANAGEMENT SCHOOL) *Sep. 2019 - Feb. 2020*

- Taught practical classes of Data Visualization. The expected student outcome was the creation of online interactive dashboards for efficient visualization of high volumes of data.

EXPERIENCE

ISI Foundation *Turin, Italy*

RESEARCH IN TOPOLOGICAL DATA ANALYSIS *Feb. 2020 - Ongoing*

- Full scholarship awarded (by Nova University) to intern at the research group of Topological Data Analysis. (collective initiatives halted due to Covid-19.)
- Research on "Topology of Learning": initiative to understand Neural Networks through Algebraic Topology, under the supervision of Dr. Giovanni Petri, since Feb. 2019.

Ageas Seguros *Lisbon, Portugal*

PRICING INTERN *Feb. 2017 - Mar. 2017*

- Internship working on an actuarial group for non-life insurance pricing.

HONORS & AWARDS

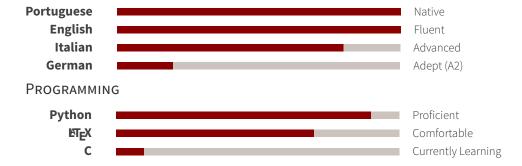|		
2020	**2nd Place**, Nokathon 2020: Nokia's international machine learning competition	*Online*
2019	**1st Place**, Nokathon 2019: Nokia's international machine learning competition	*Lisbon, Portugal*
2018	**Scholarship**, Winner of a fully funded scholarship to participate in a 10-day workshop on Geographical Information Systems (GIS) in Delft University.	*Delft, Netherlands*

LANGUAGES

Portuguese		Native
English		Fluent
Italian		Advanced
German		Adept (A2)

Programming

Python		Proficient
LaTeX		Comfortable
C		Currently Learning

Extracurricular Activity

Sports

AEFT
Lisbon, Portugal

Volleyball Player — *20014 - 2019*

- Played volleyball for the university team AEFCT in the national university championship.
- Awarded best player of the university in the first year. In charge of player scouting for the subsequent years.

Sport Lisboa e Benfica (S.L.B.)
Lisbon, Portugal

Volleyball Player — *2006 - 2014*

- Played volleyball for Sport Lisboa e Benfica, winning most regional championships and consistently achieving good ranking in the national championship.
- Briefly participated in the Portuguese National Volleyball team (under-18).

Music

Conservatory of Lisbon
Lisbon, Portugal

Student — *2008 - 2014*

- Studied piano, musical theory and jazz. Achieved grade 5 on piano.

Other Projects — *Ongoing*

- Self-taught in guitar and bass guitar. Currently learning the drums.
- Still involved in multiple amateur rock bands, some of which haven't failed yet.

Volunteering

João Paulo II center for the disabled.
Fátima, Portugal

Volunteer

- Volunteer work in the center for disabled in Fátima, Portugal for several weeks over a period of 3 years

Santa Casa da Misericórdia.
Azores, Portugal

Volunteer — *July 2015*

- Volunteer work on a geriatric center in Azores, Portugal for several weeks.