

## Luis Sierra Muntané

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### Currently

September 2024—

**Type:** PhD Statistics

**Where:** University of Toronto, Toronto, Canada

**Remark:** Supervised by Dr. Elena Tuzhilina on a doctoral recruitment award.

Working on High-Dimensional Data and Convex Optimization for applications in sparse Statistics and Machine Learning

### Education

September 2023—

**Type:** MSc Applied Mathematics

May 2024

**Where:** Universitat Politècnica de Catalunya, Barcelona, Spain

**Remark:** Focus topic: Probability, Machine Learning, Numerical Methods

Master's Thesis: Matrix completion for NLP, working with INTERACT research group at UPC

**CFIS Programme** excellence center within the Universitat Politècnica de Catalunya with its own independent admissions process for the double degree.

September 2018—

**Type:** BSc in Mathematics

May 2023

**Where:** Universitat Politècnica de Catalunya, Barcelona, Spain

**Remark:** Relevant Courses: Probability Theory, ODEs, PDEs, Mathematical Programming and Optimization, Numerical Methods, Galois Theory

September 2018—

**Type:** BSc in Data Science and Engineering

May 2023

**Where:** Universitat Politècnica de Catalunya, Barcelona, Spain

**Remark:** Relevant Courses: Algorithmics and Programming I, II & III  
Machine Learning I, II & III, Signal Processing, DBs, Parallel processing

September 2016—

**Type:** International Baccalaureate Diploma Programme

May 2018

**Where:** Oak House British School, Barcelona, Spain

**Remark:** Final grade: 44/45

### Work Experience

July 2023—

**Position:** Quantitative Research Intern

September 2023

**Where:** Optiver, Amsterdam

Project in the pricing research department for the largest European market maker in the options space, where I worked with quantitative models and strategies, contributing to pricing engines.

September 2022—

**Type:** Undergraduate Researcher, Department of Statistical Sciences

May 2023

**Where:** University of Toronto, Toronto, Canada

**Remark:** Working with Dr. Piotr Zwiernik in High-dimensional mathematical

**Article:** Tensors in Algebraic Statistics [arxiv/2411.14080](https://arxiv.org/abs/2411.14080)

June 2021—  
August 2021

**Position:** Data Science Intern

**Where:** Wikiloc Outdoor S.L.

As part of the Data Science team my main task was to work on the Retention Project in which we had to analyse patterns in user data and compiling metrics for management in order to improve the service's churn.

### Some Personal Projects

- **Wine type and quality analysis** Performing a statistical analysis and using machine learning methods in **R** to predict given the chemical composition of a wine, its type and quality.
- **Bicingbot** A bot for the platform Telegram in **Python** with which to check metrics and routes for Bicing Barcelona, an urban shared-bike transportation service.
- **Upcoming 2025** Publication in the Catalan Mathematical Society (SCM) for the importance and impact of tensor methods in data science

**Spoken languages:** English, Spanish, Catalan (Native), French B2 (C candidate), German A2 (B candidate), learning Russian

**Programming languages:** Fairly competent: C/C++, Python, Pytorch, R, git, L<sup>A</sup>T<sub>E</sub>X, SQL, Matlab; Some exposure: Shell, vim, TensorFlow, Hadoop, Julia

### Honors and awards

- **Doctoral Recruitment Award** - University of Toronto Prize for promising incoming PhDs
- **CFIS Programme** tuition scholarship for academic excellence
- Mathematics Faculty Student President
- G-Research Spring Week
- First Prize G-Research Barcelona Challenge 2023
- Mobint Scholarship for Academic Success (State Awarded)
- Best Student Award throughout secondary school and IB
- Participated at Harvard Model Congress Model United Nations 2017 and other MUN events
- Generation Euro – European Central Bank Competition Semi-Finalists 2017
- Mathematics Proves Cangur 99.9th percentile in the nation

### Notable Sports Achievements

- Summit Huayna Potosí, Bolivia (6088m)
- Finisher Barcelona Triathlon
- Finisher Vielha-Molières 3010 Ultra-Marathon
- Ultramarathon Carros de Foc Parc Nacional d'Aigüestortes 150km
- Summit Mount Kazbek, Georgia (5054m)
- Summit Mont-Blanc du Tacul, Aiguille du Midi (4248m)
- Summit Aneto, ceiling of the Pyrenees, Spain (3404m)
- Finisher Ciclo-Brava Gran Fondo (140km)

**Other interests:** Economics and Financial Markets, Mountaineering, Sports, Cinema, Chess, Puzzles