

# Richard Coll Josifov

Barcelona, Spain

☎ (+34) 622 504 447 | ✉ rcolljosifov@gmail.com | 🌐 richardcolljosifov.github.io | 📄 richardcolljosifov | 🎓 Google Scholar

## Education

### PhD in Applied Mathematics

Sept. 2024 - currently

POLYTECHNIC UNIVERSITY OF CATALONIA - POMPEU FABRA UNIVERSITY

Barcelona, Spain

- Supervised by Dr. Gábor Lugosi (UPF) and Dr. Juanjo Rué (UPC).
- Funded through the competitive FPU grant.
- My PhD thesis revolves around discrete probability, combinatorics and combinatorial statistics. I am currently researching topics within root estimation in random growing trees, as well as block sizes in random planar maps.

### M.Sc. Applied and Computational Mathematics

Aug. 2022 - June 2024

KTH ROYAL INSTITUTE OF TECHNOLOGY

Stockholm, Sweden

- Specialisation: Mathematics of Data Science. GPA: 4.9/5
- Some relevant courses include, all passed with maximum grade: Probability Theory, Graph Theory, Stochastic Differential Equations, Regression Analysis, Numerical Methods, Topological Data Analysis, Computational Statistics, Statistical Learning.
- Master thesis: "Network archaeology of random recursive dags with noise" under the supervision of Dr. Gábor Lugosi (UPF).

### B.Sc. Electrical Engineering

Sept. 2018 - July 2022

POLYTECHNIC UNIVERSITY OF CATALONIA

Barcelona, Spain

- First of the 2022 promotion. Average grade of 9,3 out of 10 with honours ("Matrícula de honor") in over half of the courses (150/243ECTS)
- Bachelor's final thesis: "Deep learning based computer vision for aerial-view object detection and classification", at the Advanced Control Systems research group, which led to a conference publication.

## Publications

- Coll Josifov, R.; Devroye, L. and Lugosi, G., "Centrality measures in random recursive trees", *In preparation*.
- Coll Josifov, R.; Masip Álvarez, A. and Lavèrnia Ferrer, D., "Deep learning techniques applied to traffic accidents prediction", *XLIII Jornadas de Automática 2022*.

## Teaching

- TA Linear Algebra and Dynamical Systems (2025), fourth year Economics students at UPF (9 hours).
- TA Mathematics II (2025), first year Economics students at UPF (24 hours).

## Workshops, research stays

- Attendance of the workshops: Oxford Probability Workshop Random Discrete Structures (2025); SLMI Workshop Detection, Estimation and Reconstruction in Networks (2025).
- McGill University, 1 month research stay under the supervision of Dr. Luc Devroye.

## Honors, Grants & Scholarships

2025	<b>Oxford Probability Workshop "3 Minute Thesis Competition"</b> , Second prize.	Oxford, UK
2025-2028	<b>"Formación de Profesorado Universitario" grant</b> , PhD grant (114.760,80€).	Barcelona, Spain
2022	<b>First of promotion award</b> , finishing first out of 75 in the 2022 Electrical Engineering promotion (500€).	Terrassa, Spain
2021,2022	<b>Initiation to Research Grant (INIREC)</b> , 6 months MCIA INIREC grant (1.800€).	Terrassa, Spain
2021	<b>Initiation to Research Grant (INIREC)</b> , 6 months Santander Bank-UPC initiation to research grant (3.150€).	Terrassa, Spain
2018	<b>Tavil Scholarship</b> , to cover studies fees (10.000€).	Olot, Spain
2018	<b>Distinction</b> , University Access Exams, for a mark of 96%.	Barcelona, Spain

## Professional Experience

### Research Assistant

March 2021 - March 2022

MCIA CENTER INNOVATION ELECTRONICS, POLYTECHNIC UNIVERSITY OF CATALONIA

Terrassa, Spain

- Worked as a research assistant to PhD student Ángel Fernández under the supervision of Dr. Miguel Delgado doing research in flexible production lines, within the industry 4.0 framework.
- Among my duties there were the development of software for PLCs to control an industrial plant model that increased its flexibility, building the software infrastructure to allow for the digitization of the plant and to create a digital simulation of it, as well as the maintenance of the research group's lab webpage and supporting students doing their thesis within this area.

## Research and Development Intern

*Aug. 2019, Aug. 2020, July - Aug. 2021*

TAVIL IND, SAU

*Olot, Spain*

- In total three summer internships during my bachelor, in which I did the following: Regression analysis to adapt the industrial line to multiple products; Implemented LAN communication systems; Created a software to allow the automation of CNC files creation through a GUI.

## Skills

---

- Languages: English (level C2), Catalan (Native), Spanish (Native), Mandarin Chinese (level A1).