Guillermo Villanueva Benito

MSc & BSc in Mathematics | BEng in Engineering Physics | Ex-OR analyst @ paack

Graduate from Interdisciplinary Higher Education Center (**CFIS**) at the Universitat Politècnica de Catalunya (**UPC**). Currently, master's student from the Master's degree in Advanced Mathematics and Mathematical Engineering (**MAMME**) at UPC.

Very interested in applications of mathematics and engineering to **real-world problems**. Particularly, in data science, machine learning, operations research and optimization.

Hard-working and **passionate** about math applications, seeking for job opportunities as a an **applied scientist**.

✉ guillermovillanuevabenito@gmail.com

📞 605338916

📍 Barcelona, Spain

in guillermo-villanueva-benito

◯ guillermo-villanueva-benito

🔗 personal-website

GENERAL SKILLS ★

Machine Learning	Operations Research
Mathematical Modelling	Data Analysis
Statistical Learning	Numerical Analysis
Mathematical Programming	Statistics

TECHNICAL SKILLS 🚀

Python

pandas, sklearn, NumPy, keras, matplotlib, plotly, folium

R

glmnet, caret, sm, mgcv, stats, splines, ggplot2

MATLAB	Git	LaTeX	AMPL
OR-tools	C++	GitHub	Excel
Looker	STAN	SQL	CPLEX
HTML	CSS		

LANGUAGES A文

- **Spanish** ●●●●●
  Native or bilingual proficiency

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- **English** ●●●●◯
  Full professional proficiency

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- **Catalan** ●●●◯◯
  Limited working proficiency

WORK EXPERIENCE 💼

◆ Graduate Visiting Researcher

📅 *February 2022 - Present*
The New Jersey Institute of Technology (NJIT)
(Part time)

💻 *New Jersey*

- Research work on **computational neuroscience**.
- Analyze behavioral and neural **data**.
- Build and fit **neuronal network models**
- Master thesis: ongoing

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◆ Operations Research Analyst

📅 *March 2022 - July 2022*
Data&Strategy Team - Paack
(Part-time - 5 months)

📍 *Barcelona*

- **Data analysis** and **visualization** in logistics/transportation/supply chain.
- **Mathematical optimization** methods and simulation models for risk/ROI assessment.
- Develop practical and pragmatic approaches to solve business problems using **real-world data**.
- Collect **business** requirements and deliver easy-to-understand data analysis, results and recommendations to stakeholders.

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◆ Undergraduate Visiting Researcher

📅 *September 2020 - July 2021*
The New Jersey Institute of Technology (NJIT)
(Full-time - 10 months)

💻 *New Jersey*

- Research work on **computational neuroscience**.
- Analyze **mathematical models** in neuroscience to study the problem of parameter estimation unidentifiability.
- Degree thesis: *Neuronal oscillations level sets for activity constancy: from single neurons to networks*
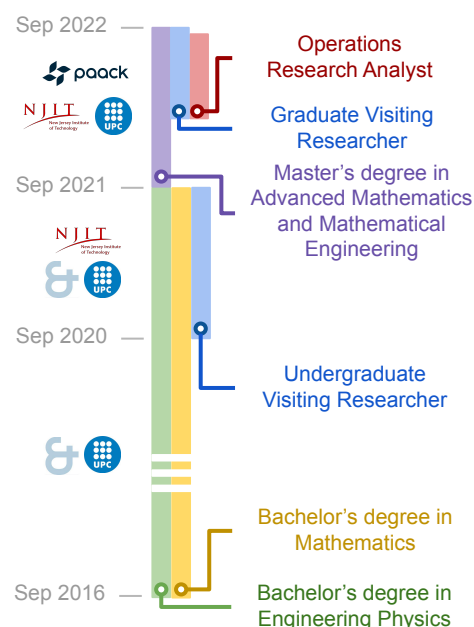
EDUCATION

♦ **Master's degree in Advanced Mathematics and Mathematical Engineering**

February 2022 - Present — *Barcelona*
Universitat Politècnica de Catalunya (UPC)
School of Mathematics and Statistics

- Applied mathematics curriculum focused on **data science** and **mathematical modelling**.
- Honors or excellence in 5 subjects.
- Non-curricular internship during the second semester.

♦ **Bachelor's degree in Mathematics**

September 2016 - July 2021 — *Barcelona*
CFIS - Universitat Politècnica de Catalunya (CFIS-UPC)
School of Mathematics and Statistics

- A rigorous and proof-oriented curriculum with a robust mathematical base, providing a solid knowledge in its applications (**algorithms**, **computing**).
- Honors or excellence in 2 subjects.
- As part of the **CFIS-program** to course 2 degrees simultaneously.

♦ **Bachelor's degree in Engineering Physics**

September 2016 - July 2021 — *Barcelona*
CFIS - Universitat Politècnica de Catalunya (CFIS-UPC)
School of Telecommunications Engineering

- Extensive curriculum with solid **physics** fundamental **principles** and their **applications** in key emerging technologies (photonics, robotics, telecommunications)
- Honors or excellence in 5 subjects.
- As part of the **CFIS-program** to course 2 degrees simultaneously.

AWARDS AND RECOGNITIONS

♦ **Participation in the 2021 Dana Knox Student Research Showcase**
April 2021
New Jersey Institute of Technology (NJIT)

- As a visiting researcher at NJIT, nominated and selected by the screening committee.

♦ **Exchange student Scholarship**
February 2020 - July 2021
CFIS - UPC

- A six-month scholarship to carry out my Bachelor's thesis at the New Jersey Institute of Technology.

♦ **Tuition and Accommodation Scholarship**
September 2016 - July 2020
CFIS - UPC

- Scholarship covering the price of a Bachelor's degree and housing in Barcelona.

♦ **Honors in Baccalaureate**
July 2016
Liceo Europa School, Zaragoza.