



Guillermo Villanueva Benito

MSc in Applied Mathematics | BSc in Mathematics | BEng in Engineering Physics

Graduate from the Interdisciplinary Higher Education Center (CFIS) at the Universitat Politècnica de Catalunya (UPC) and MSc graduate in Applied Mathematics from 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 an **applied scientist**.

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📍 Barcelona, Spain

🌐 guillermo-villanueva-benito

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🌐 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, seaborn, folium

R

Caret, glmnet, sm, mgcv, stats, splines, ggplot2

MATLAB

Git

LaTeX

AMPL

OR-tools

C++

GitHub

Excel

Looker

STAN

SQL

CPLEX

HTML

CSS

LANGUAGES

- Spanish ●●●●●
Native or bilingual proficiency

- English ●●●●○
Full professional proficiency

- Catalan ●●●○○
Limited working proficiency

WORK EXPERIENCE

◆ Data Scientist

📅 Nov 2022 - Present (Full-time)
Biomedical Data Science Research Group - ISGlobal

📍 Barcelona



- Data Science Technician.

◆ Graduate Visiting Researcher

📅 February 2022 - September 2022 (Part time)
Mathematical Biology and Computational Neuroscience Group - NJIT

📍 New Jersey



- Research work on **computational neuroscience**.
- Analyze behavioral and neural **data**.
- Build and fit **neuronal network models**
- Master's thesis: *Network models in Neuroscience: from experimental data to theoretical properties*.

◆ Operations Research Analyst

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

📍 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.

◆ Undergraduate Visiting Researcher

📅 September 2020 - July 2021 (Full-time)
Mathematical Biology and Computational Neuroscience Group - NJIT

📍 New Jersey



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

COURSES



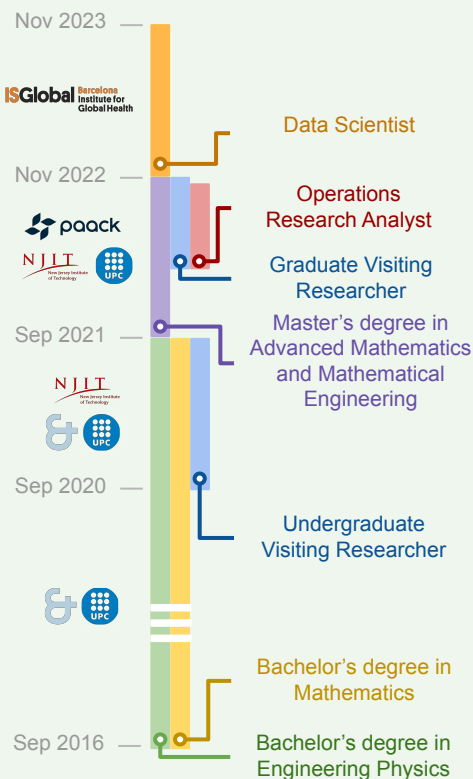
- **SQL for Data Science**
IBM DB0201EN, edX
- **Introduction to Computational Neuroscience**
Department of Mathematical Science, NJIT

ACHIEVEMENTS



- **2023. Scientific publication (to be submitted).**
New Jersey Institute of Technology
- **2022. Professional experience.**
Paack
- **2021. Attendance to a scientific conference.**
Organization for Computational Neurosciences, CNS*2021
- **2016. CFIS membership.**
Center of Excellence at UPC

TIMELINE



LINKS OF INTEREST



- **CFIS-Network website**
- **Abstract CNS*2021 (P157)**

EDUCATION



◆ Master's degree in Advanced Mathematics and Mathematical Engineering

Barcelona

September 2021 - October 2022
Universitat Politècnica de Catalunya (UPC)
School of Mathematics and Statistics



- Applied mathematics curriculum focused on **data science** and **mathematical modelling**.
- Honors or excellence in 6 subjects.
- Non-curricular internship during the second semester.

◆ Bachelor's degree in Mathematics

Barcelona

September 2016 - July 2021
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

Barcelona

September 2016 - July 2021
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 2021 - 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.

