







Guillem Tutusaus Alcaraz

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Hi, my name is Guillem and I am a graduate student in Mathematics at Universitat Autònoma de Barcelona. My main interests range from Stochastic processes, applied to Financial Engineering, to Fluid Dynamics and other aspects in Computer Science, Physics and Engineering. I am currently looking for a position as Data Analyst, Data Scientist or Mathematical Modeler.

EDUCATION

Bachelor's Degree in Mathematics

Universitat Autònoma de Barcelona

September 2018 - July 2024

Cerdanyola, Spain

WORKING EXPERIENCE

Business Analyst

SQL Developer

Jupyter

Qlik Sense

January 2025 - Currently

VidaCaixa, S.A.U.

Barcelona, Spain

- Leverage data-driven insights to enhance decision-making processes, improve operational efficiency, and support strategic initiatives. Whilst maintaining day-to-day business reports.

Data Analyst

IBM SPSS

MS Excel

R

July 2023 - November 2023

Biotechal, S.A.

Sant Quirze del Vallès, Spain

- Studied consumer behavior, designing and controlling all kinds of products, allowed to respond to the demands of the market in front of consumers, manufacturers and distributors.
- Used IBM SPSS as well as MS Excel and R to make inference on data using different statistical tests.

Private Tutor

October 2018 - June 2020

Professors particulars DAFME

On-site, Spain

- Collaborated with students to comprehend the lesson, identify lacking skills and correct weaknesses. Also prepared students for the University access exam (PAU).

ACTIVITIES & VOLUNTEERING

UABTheHack 2024

Python


Problem-solving

Git

May 18 - May 19, 2024

by Universitat Autònoma de Barcelona

Cerdanyola, Spain

 Code

- Participated on Caixa d'Enginyers' challenge for their upcoming travelling cashier service.
- Their challenge was to create a program, which given some parameters like initial position, time and destinations it would give a route to follow by solving the Travelling Salesman Problem (TSP).

HackUPC 2024

C++

AI

Programming

May 3 - May 5, 2024

by Universitat Politècnica de Catalunya

Barcelona, Spain

 Code

- Hackathon where different companies such as ESA, Vueling, TravelPerk and others posted different real-life challenges for students to solve.
- Gained knowledge on the heuristics of artificial intelligence and the optimization of time in algorithms.

ICIAM Lecture Coordinator

by Universitat de València

July 15 - July 19, 2019

València, Spain

- In charge of coordinating the interventions of the congressmen who presented their research applied to different industries.

SELECTED PROJECTS AND REPORTS

Knots and the Jones Polynomial

February 2024 - June 2024

Reidemeister Theorem, Algebraic Invariants

 [Report](#)

- Study of Mathematical Knots making special emphasis to the Jones Polynomial Invariant and its applications in Quantum Computing and Medicine.
- Advised by Joan Porti Piqué.

AI for Connect-4 Game

September 2022 - November 2022

Connect 4, C, AI, Minimax, Heuristics

 [Code](#)

- Implemented artificial intelligence for the classical Connect-4 game using the Minimax algorithm.
- Project conducted as part of the course *Advanced Mathematics* at the Autonomous University of Barcelona.
- Advised by Vicenç Soler.

Construction of a Low-Cost Weather Balloon

June 2017 - September 2018

Weather Balloon, Arduino, C++

 [Report](#) |  [Code](#)

- Built a Weather Balloon capable of taking multiple atmospheric measurements and record until reaching the atmosphere (30Km). This project was self-funded.
- Used Arduino and different sensors to take measures.
- Advised by Íngrid Muñoz, Joshua Tristancho and Núria Salán.

SKILLS

Industry knowledge	Programming Mathematical Modeling Numerical Analysis Time Series Financial Engineering Fast Fourier Transform
Programming Languages	C C++ Python \LaTeX Maple Java R HTML SQL
Libraries and Frameworks	Numpy Matplotlib Make Cmake Pandas Pygame
Tools and Platforms	Microsoft Excel Microsoft PowerPoint VSCode Git Jupyter Notebook SageMath Arduino IBM SPSS
Soft Skills and Others	Resourceful Team Builder Innovative Curious Committed Persistent Competitive Ambitious Open-minded Responsible Problem-solving

LANGUAGES

English	Advanced (Level C1)
French	Basic (level A2)
Spanish	Native
Catalan	Native

OTHERS

Interests	Rockets Planes Engineering Hiking Swimming Climbing
Driving licenses	B