

Guillem Tutusaus Alcaraz

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I am a graduate student in Mathematics at Universitat Autònoma de Barcelona. Currently, I am looking to join the Aeronautical and Aerospace Industries. My main interests range from Stochastic processes, applied to Financial Engineering, to Fluid Dynamics and other aspects in Computer Science, Physics and Engineering.

EDUCATION

Bachelor's Degree in Mathematics

Universitat Autònoma de Barcelona

September 2018 - July 2024

Cerdanyola, Spain

Baccalaureate

Escola Tecnos

September 2016 - May 2018

Terrassa, Spain

WORKING EXPERIENCE

Private Tutor

ONA Centre

November 2023 - Currently

Barberà del Vallès, Spain

- Mathematics, Physics and Chemistry on a Baccalaureate level.

Market Research Analyst

Biotecln S.A.

August 2023 - November 2023

Sant Quirze del Vallès, Spain

- As part of a curricular internship.
- 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.

Private Tutor

Professors particulars DAFME

October 2018 - June 2020

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

by Universitat Autònoma de Barcelona

May 18 - May 19, 2024

Cerdanyola, Spain

- Participated on the Caixa d'Enginyers challenge for their upcoming traveling cashier service.

HackUPC 2024

by Universitat Politècnica de Catalunya

May 3 - May 5, 2024

Barcelona, Spain

- 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 resources.

ICIAM Lecture Coordinator

by Universitat de València

July 15 - July 19, 2019

València, Spain

- Responsible for coordinating the interventions of the congressmen who presented their research.

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 Tristanco](#) 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
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