Gael Berlanga Boemare
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Education

University of Cambridge — Cambridge, United Kingdom
Master of Engineering - MEng, Engineering Tripos — Sep. 2022 – Jul. 2026
2nd year grade: First Class Honours.

British School of Brussels — Brussels, Belgium
A-levels: A* A* A* in Mathematics, Physics, Further Mathematics — Sep. 2020 – Jul. 2022
Awards:

- European Statistics Competition 2020. 1st place, team of 3, 17,000 students, 16 countries.
- Belgian Physics Olympiad 2021. 3rd place.

Technical Skills and Projects

Programming and Design: Python, R, C++, JavaScript, HTML, CSS, SolidWorks, AutoCAD

Poker bot using Counterfactual Regret Minimization:

- Produced a bot that can play Kuhn and Texas Hold 'em poker variants.
- Trained using counterfactual regret minimization with abstraction of the game.
- Hosted on my web page in JavaScript.

IMC Trading Competition Prosperity 2:

- Placed top 1% out of 10,000 teams in a team of 4.
- Produced Algorithms to trade virtual products and options in a simulated market.
- Developed Strategies using the Black-Scholes equation, moving averages, and other indicators.
- Solved probability and game theory brain teasers.

Cambridge Robotics Competition:

- Built a delivery robot coded in C++ from raw materials and sensors.
- Programmed and soldered an Arduino microcontroller with sensors.
- Tuned a control system for line following and turning, working alongside path-finding algorithms.

Experience

Data Science Intern, Galeio — July 2024

- Created vector databases by utilizing Meta's DinoV2 model to generate embeddings from small patches of large satellite images.
- Achieved one-shot object detection by performing searches through vector databases using cosine similarity.
- Developed data annotation software by selecting zero-shot detected objects with Meta's Segment Anything Model, doubling speed.

Discovery Day, Susquehanna International Group (SIG) — March 2024

- Selected as one of 200 participants out of 2500 applicants to engage in a comprehensive overview of SIG's trading equity research and trading operations.
- Engaged in strategy games and interactive sessions showcasing analytical and strategic thinking.

Data Science Intern, Desbrest Institute of Epidemiology and Public Health — Winter 2023

- Developed algorithms for automated pulmonary health analysis from exhaled gases using R.
- Extracted meaningful data from curves of exhaled gases by fitting non-linear models.
- Performed principal component analyses followed by clustering algorithms to classify patients.
- Conducted a study linking coastal weather to stroke cases using R.
- Utilised multiple regression techniques, notably Lasso, to extract meaningful variables.

Engineering Intern, AGRO – OLEUM INGENIERIA S.L. — Summer 2023

- Collaborated with a team of engineers to aid in the production and development of warehouses.
- Designed and edited plans using AutoCAD from data extracted from modelling software.

Languages and Interests

Languages: French, Spanish, and English. All native proficiency.

Interests: Weightlifting, Rugby, Programming.