

Emilio Daza

Aspiring Applied Mathematician

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Education

Dartmouth College, Hanover, New Hampshire

Major: Mathematics

2023 - 2027 (Expected)

COAR Amazonas, Peru

International Baccalaurete (11/2021)

2019 - 2021

- Valedictorian

Projects

- **Machine Learning Research Project for Precision Medicine (2024: Freshman Year)**

Working under the supervision of the Jack Byrne Distinguished Professor in Mathematics Peter J. Mucha and the Postdoctoral Research Associate Rebecca Hardenbrook on the creation of 3 AI models: one that predicts presence of heart disease, one that interprets medical imaging, and one that proposes treatments to novel diseases. Participation in weekly meetings with EE Just Mentorship Program on being a scientist and Professor Mucha's Research Group.

- **IB Group Project: Mathematical Model to Help COVID-19 Infected Individuals (2021)**

Co-authored with the now student of medicine at the University of Toribio Rodrigo de Mendoza in Peru, Fabrizio Casas with whom we created a model in which people through describing their COVID-19 symptoms can estimate their level of severity and know how to identify the health-center that has the amount of oxygen and type of bed they need to recover.

- Project supervised by IB Math instruction and presented to Dataton (A national Mathematical contest by the Universidad del Pacífico)

- **Use of Lotka-Volterra Differential Equations to Predict and Prevent the Extinction of Species (2021)**

Developed a project in which I proposed how to use the mentioned tool to protect species in danger of extinction. During the process of analysis, I also used computational tools such as Python and Spreadsheets. The project received a perfect score in the International Baccalaurete (IB) evaluation.

Awards and Honors

Machine Learning Researcher at Dartmouth College

2024-Ongoing

EE Just Program

- Working under the supervision of Peter J. Mucha and the Rebecca Hardenbrook as a full-time researcher. Awarded an stipend of \$6000 to be a Research Summer Intern as a freshman during my undergraduate studies. 1 out of 7 freshman students selected to work on an individual project.

Cometa Camp Scholarship

Intercorp Management S.A.C.

2022-2023

-One of 100 students chosen out of 2275 Peruvian applicants to receive a comprehensive college preparation scholarship (Cometa Camp) after completing five national selection rounds.

-One of only 8 students chosen from this cohort to participate in the Cometa Camp Fast Track program and apply successfully to highly selective U.S. universities in 5 months.

Beca Cometa Scholarship

Intercorp Management S.A.C.

2023

- One of 2 students to receive the 2023 Beca Cometa Scholarship which covers the total costs of my

undergraduate education, as well as my travel expenses and technological tools for four years. (Award Value +\$93,000 USD per year).

Honorable Mention

International Eduversal Mathematics Competition Senior Level. Virtual. 2021

- Approximately 300 competitors from different countries.

Third Place in the United Nations Human Rights Council

Asia Youth International Model of United Nations (AYIMUN). Virtual. 2022

- In all committees combined, there were 69 countries and approximately 700 selected delegates. I was one of the nine Peruvian representatives.

Honorable Mention in the WHO Committee - MITMUNC

Massachusetts Institute of Technology. Virtual. 2022

- Only Latin American winner in the committee.

The Great Issues Scholars Program, Dartmouth College (Freshman Year) 2023-2024

- One of approximately 30 students chosen to explore global challenges and propose global during informed discussions.

- Talked with Dr. Rose Mutiso, Research Director for the Energy for Growth Hub and co-author of several pieces of U.S. environmental legislation

- Contributed to critical discussions on disease management in underprivileged areas and the value of protecting endangered sentient beings with representatives of the Geisel School of Medicine.

Certificate of Excellence and Diplomacy

Colegio Presidente del Peru (COAR Lima). Virtual. 2021

- Most COARS (if not all), elite private Peruvian schools, and international schools competing.

Best Delegate in the Commission for Social Development

Red COAR MUN International Edition. Virtual. 2021

- Most COARS(if not all), elite private Peruvian schools, and international schools competing.

LALA - Latin American Leadership Academy

- One of the 35 selected individuals from out of 900 international applicants (3.9% acceptance rate) to be part of the Latin American Leadership Academy [LALA] VCAMP 2022.

Skills

- Coding: L^AT_EX, R-Studio, Markdown, and Python

- Languages: Spanish (Native), English (Advanced), French (Limited Working Proficiency)

Volunteer Experience

COAR Network's Journal (EDUCOAR)

Writer 2021

- Contributed with articles (including scientific ones) for almost a year in collaboration with the rest of the selected writers from the COAR Network

Peruvian Congress

Selected speaker of the Amazonas department 2020

- I had a meeting with the Peruvian congresswoman Rocío Santisteban on the needs and demands of children and adolescents.

Beca Cometa and Grupo Intercorp

Cometa Fest speaker 2023

- The Cometa Fest is a national Peruvian event that provides vocational orientation for Peruvian high school students. The 2023 edition had more than 23 000 participants, 478 287 minutes were played, and 105 high schools participated. One of the sections was a virtual interview with me where I shared my experience at Dartmouth, story of resilience, and message of hope for students from underprivileged areas of Peru.

COAR Amazonas

Debate Trainer of the 2022 Model of United Nations Delegation 2022

- The members of the delegation combined obtained 5 distinctions (including a Best Delegate Award and two Best Position Paper Awards) in the 2022 COAR MUN virtual edition national competition

Sumaq Yachay

Debate Judge and Mentor 2022

- Mentor of the program ABC del MUN created by Sumaq Yachay (organization recognized by the National Youth Secretariat of Peru)

- Provided training to delegates from different countries, hosted an international MUN Competition, and been the judge of it.

Organizations

Society for Industrial and Applied Mathematics (SIAM)

Student Member

Feb 2024 - Present

CVL Counseling

SAT Mathematics Mentor

2022

- Taught two 17-year-old Peruvian students, one-to-one lessons on all SAT Maths topics. 6 Hours per week. Approximately 94 hrs dedicated in total.

Data Analysis Courses

Course Title (Platform: Data Camp)

Cleaning Data in R
 Intermediate Regression in R
 Data Manipulation with dplyr
 Exploratory Data Analysis in R
 Intermediate Data Visualization in ggplot 2
 Intermediate Importing Data in R
 Intermediate R
 Reporting with R Markdown
 Working with Dates and Times in R