

DAVID GONZALEZ-CALATAYUD

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EXPERIENCE

Fever Software Engineer Intern	Jul 2025 – Nov 2025 Madrid, Spain
- Part of the 12th Gen of Fever's Beca de Excelencia (Excellence Scholarship) - Tech Stack: Python, Django, FastAPI, PostgreSQL, Docker, CI/CD, DDD, SOLID, EDA.	
Condensed Matter Physics Center (IFIMAC) Research Assistant	Jan 2024 – Oct 2024 Madrid, Spain
- Developed smart, magnetic-driven microrobots using deep reinforcement learning (RL) for navigation tasks. Built an experimental setup with a GUI for real-time particle tracking and magnetic actuation control. Successfully trained the microrobots to roll by harnessing lubrication forces. 🔗 - Presented results at several conferences. - Coded in Python using Pytorch, OpenCV, Threading, and StableBaselines3 (RL library) - Supervisor: Prof. Juan Luis Aragonés	
Boston University Research Assistant	Oct 2023 – Dec 2023 Boston, USA
- Applied equilibrium statistical mechanics methods to study wealth distribution and economic mobility in an asset exchange model across various network distributions. - Developed main simulation code using C++. Performed data analysis with Python.	
Freelance Private Tutor	Sept 2020 – Feb 2023 Madrid, Spain & Remote
Private tutor for high-school and first-year engineering students teaching physics, mathematics & chemistry.	

EDUCATION

Universidad Autónoma de Madrid <i>B.Sc. in Physics</i> , GPA: 8.61/10	Sep 2020 – May 2025 Madrid, Spain
Bachelor thesis: Smart magnetic microrobots learn to roll with deep reinforcement learning (grade: 9.4)	
Boston University Visiting Student	Sep 2023 – Dec 2023 Boston, USA
Exchange student for Fall 2023, supported by scholarship covering tuition and room.	
Heidelberg University Visiting Student	Oct 2022 – Aug 2023 Heidelberg, Germany
Erasmus exchange student for the Academic Year 2022/23.	

AWARDS AND SCHOLARSHIPS

Interdisciplinary Mathematics Institute , 3rd Accésit at the VII Mathematical Modeling Contest [link]	Nov 2024
Spanish National Research Council , JAE Intro Scholarship (\$4,200)	Jul 2024
Condensed Matter Physics Division-RSEF , Research Awards for Undergraduate Students (\$750) [link]	Jun 2024
Boston University , BU-UAM Faculty of Science Scholarship (\$4,500)	Sep 2023
Community of Madrid , Excellence Scholarship (\$2,100)	Jul 2021
Autonomous University of Madrid , Young Talent Awards	Jun 2021
Magma , 2nd Prize at the XXII Exporecerca Jove [video]	Feb 2021
URANIA , Special Prize to the Best Project Related to Biodiversity and Environmental Protection	Jan 2021
Spanish Ministry of Universities , 2nd Prize at the XXXII Young Researchers Contest (\$3,000) [link]	Dec 2020
Pintor Antonio Lopez High School , Honourable Mention	Jul 2020
Spanish Royal Physics Society , Silver Medal in the XXXI Spanish Physics Olympiad	Jul 2020
Madrid Chemistry Society , Honorable Mention in the Madrid Chemistry Olympiad	Mar 2020

TECHNICAL SKILLS

Programming Languages: Python, SQL, MATLAB, C++

Python libraries: Django, FastAPI, NumPy, SciPy, Matplotlib, NetworkX, OpenCV, Threading, Gymnasium, StableBaselines3

Others: Excel, Linux, Bash, Git, Docker, Slurm, L^AT_EX

LANGUAGE PROFICIENCY

English (fluent), **Spanish** (native), **German** (conversational)