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PROFESSIONAL SUMMARY

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Data engineer and analyst-oriented physicist with a strong background in quantitative modelling, statistical analysis, and Python-based workflows; currently pursuing a Master's degree in Particle Cosmology, with research focused on gravitational particle production. Polyglot with proficiency in English and German, intermediate level of Italian and Portuguese and native Spanish levels .

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EDUCATION

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**National Autonomous Mexico University***Finances Coursework*

Mexico City, CDMX

*March 2026 - Current*

- **Concentrations:** Business finances, investments and credits
- **Relevant Coursework:** Financial mathematics, Administration and Accountability Basics

**Carnegie Mellon University***Introduction to Modern AI*

Online Course

*Jan 2026 - April 2026*

- **Concentrations:** Large language models and Neural Networks
- **Relevant Coursework:** Supervised Machine Learning, Reinforcement learning, AI safety and security.

**Astronomy Institute & Physics Institute***M.S. in Field and Particles Astrophysics*

Mexico City, CDMX

*Aug 2024 - Current*

- **Concentrations:** Neural Networks, Cosmology & Quantum Field Theory (QFT)
- **Coursework:** Neural Networks, Astrophysics, Galactic Dynamics, Stellar Evolution, Interstellar Medium, Cosmology & QFT

**National Autonomous Mexico University***B.S. in Physics, Graduated with honours for high academic performance.*

Mexico City, CDMX

*Aug 2019 - Dec 2023*

- **Concentrations:** Theoretical physics, Data Science & Machine Learning
- **Relevant Coursework:** Advance Calculus, Linear Algebra, Statistics, Data Science, Theoretical physics, Fluids simulations, Advance Mathematical Methods, AI modelling.

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RESEARCH & EXPERIENCE

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- **Language Specialist/Freelance AI trainer at Meridial Marketplace (2026):** Contributed to human-in-the-loop learning pipelines to improve large language model (LLM) performance.
- **Software Validation- AI Trainer at DataAnnotation (2026):** Provided high-quality annotations for natural language processing (NLP) tasks and worked on Reinforcement Learning Through Human Feedback (RLHF) with linguistic and contextual feedback to refine AI model behaviour in real-time evaluations.
- **Master's Thesis Project. *Effective Equation of State and Gravitational Particle Production in Inflationary Models* (2026):** Supervised by Dr. Marcos A. García García, Institute of Physics, UNAM. Study of inflaton and spectator field dynamics during reheating transition.
- **Freelance work at Ashland Chemical de Mexico (2025):** Created an interactive website for the *Top 5* products presentations for private schools.
- **Research Assistant (2024):** Literature review on cosmology-related topics under the supervision of Dr. Gabriella Picchinelli Bocchi and Dr. Ángel Sánchez Cecilio. Delivered weekly presentations on theoretical aspects of cosmological perturbations.
- **First place award at ENP Interpreparatory Contest (2019):** Presented a *Knowledge and Skill* exam in the Astronomy category and won the regional category.
- **First place award at ENP Interpreparatory Contests (2019):** Wrote an essay and produced a podcast in the category *Italian II (Il mio primo racconto in podcast)*.
- **Directed social science research at the III Colloquium of the Young People Towards Research in Social Sciences, Humanities, and Arts Program (2018):** Authored the research essay *Why Study Philosophy Today?* presented at the III Colloquium of the Young People Towards Research in Social Sciences, Humanities, and Arts Program at the National Preparatory School.
- **Participation at Domino TIC-ENP Student Fair (2018):** Presented the project "Genes and Chromosomes" at the Domino TIC-ENP 2018 Student Fair, focusing on scientific communication and outreach.
- **Second place award at ENP Interpreparatory Contests (2017):** Wrote the physics essay: *Natural and Artificial Satellites* and got the second place in the local category.

## SKILLS

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**Languages:** Spanish (native), English (C2 advanced, currently pursuing a English Proficiency Cambridge certification), German (B1 intermediate at ENALLT), Italian (B2 intermediate), Portuguese (A2 basic).

**Programming background:** Python Developer (Pandas, Keras, TensorFlow, PyTorch) and SQL integration, Spark, Azure (ML) and notions of cloud architecture. Generative AI, APIs (Flask and Fast API), R (for statistical analysis), Excel, Power BI and Snowflakes. Mathematica, LaTeX (experience with Tikz), Linux (Ubuntu) and QGIS, MATLAB. UX/UI, HTML and WordPress principles

**Software Proficiency:** Prompt Engineering for AI tools (Claude, ChatGPT, Gemini), Microsoft Office Suite, Canva, Photoshop, Overleaf (LaTeX)