

Education

PhD in Nuclear Physics • UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN (UIUC)	Jul. 2026
◊ 4 Published research papers	◊ ANID National Chilean Scholarship Fellow
◊ 5 Talks in international conferences	◊ Mavis Future Faculty Fellow
◊ 2 International collaboration contributions	◊ Society of Hispanic Professional Engineers Fellow
◊ GPA 3.96/4.00	◊ CONACyT SNI III Research Assistant Fellow
MSc in Physics • NATIONAL AUTONOMOUS UNIVERSITY OF MEXICO (UNAM)	Jul. 2020
◊ 6 Published research papers	◊ 1 Research internship experience
◊ 2 Talks in international conferences	◊ CONACyT Graduate Fellow
◊ 3 Participations in technical summer schools	◊ Graduated with honors

Relevant Experience

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN (UIUC)	Urbana, IL
Teaching Assistant	Aug. 2020 – Jul. 2026
<ul style="list-style-type: none">Taught classes for 7 different courses at undergraduate and graduate level on Physics; maintained weekly office hours and problem-solving sessions; graded problem sets, exams, and presentations	
NATIONAL AUTONOMOUS UNIVERSITY OF MEXICO (UNAM)	Mexico City, MX
Teacher Assistant	Jan. 2017 – Dec. 2024
<ul style="list-style-type: none">Taught classes for 5 different courses at undergraduate and graduate levels on Physics and Computing; led group discussion sessions; graded problem sets, exams, and presentations	
MONTERREY HIGHER EDUCATION TECHNOLOGY INSTITUTE (ITESM)	Mexico City, MX
High school teacher	Aug. 2020 – Dec. 2020
<ul style="list-style-type: none">Taught a Physics course at the high school level; prepared lectures, designed take-home assignments, graded exams, and promoted group activities; rated as excellent by students and department	
CO-DECK	Mexico City, MX
Data analyst intern	Apr. 2018 – Aug. 2019
<ul style="list-style-type: none">Used the ARIMA and ANOVA techniques to perform data analysis for 9 companies to aid in business decisions using the Pandas, NumPy, SymPy, Seaborn and Matplotlib Python libraries	

Technical Skills & Projects

Language: Spanish (native), English (fluent), French (reading comprehension), Catalan (reading comprehension).

Programming: Python, Mathematica, C++, Bash, CMake, LaTeX, YAML, SLURM.

Relativistic Fluid Dynamics Simulation Framework

Designed and implemented a stack for simulating all stages of a relativistic heavy-ion collision using fluid dynamics in parallel on a high-performance computing cluster. Implemented on Python and C++ and deployed on SLURM clusters.

Analysis Suite for Heavy-ion Collision Simulations

Created a modular C++ set of programs to analyze the data created by relativistic heavy-ion collision simulations using hydrodynamics. Analyses make use of advanced statistical techniques and numerical algorithms to improve performance.

Leadership & Activities

ENGINEERING GRADUATE STUDENT ADVISORY COMMITTEE	Urbana, IL
Board Member	Aug. 2023 – Jul. 2024
<ul style="list-style-type: none">Lead discussions on topics of interest for the U. of Illinois as the representative of the Physics student body	
MEXICAN AND MEXICAN AMERICAN STUDENTS INITIATIVE	Urbana, IL
Board Member	Aug. 2020 – present
<ul style="list-style-type: none">Organized the U. of Illinois initiative for student recruiting campaign in higher-ed institutions in Mexico	