Diego Armando Juarez Rosales

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PROFESSIONAL SUMMARY

Passionate problem solver with a strong foundation in physics, mathematics, and computational methods. I earned a Bachelor's degree in Physics (with honors) from the University of Zacatecas, where I developed a strong interest in computational techniques, applying them to projects like ab initio modeling of 2D perovskites and genetic algorithms for atomic cluster stability. Currently, I am a Master's student in Physics at the University of Texas at El Paso and a research assistant focused on advanced computational methods in materials science.

EDUCATION

Autonomous University of Zacatecas **May 2018 - May 2022:** *B.S Physics (With honors)*

University of Texas at El Paso **August 2023 - Present:** *M.S Physics*

CORE COMPETENCIES

- Microsoft Skill Expert
- Bilingual
- Bachelors Degree
- Physics
- Communication
- Technology
- Enginering
- Software Development
- Creative Analytics
- Research Assistant
- Teamwork & Collaboration
- Leadership

PROFESSIONAL EXPERIENCES

- **Teaching assistant** at The University of Texas at El Paso for the mechanics and astronomy laboratory conducting two weekly sessions per lab. In the mechanics laboratory I taught the principles of statics and dynamics including concepts as Newton's equations, energy, momentum conservation and oscillations, the course included eleven practical experiments, where I guided the students in applying the theoretical knowledge gained from their lectures and a small explanation given for me at the beginning of the class. In the astronomy laboratory I introduced to the students to Kepler's Laws, orbital mechanics, exoplanets, celestial motion and understanding of astronomical events though observation-based experiments and calculations. **August 2023-July 2024**
- **Applied Mathematics & Computational Research Intern** at Lawrence Berkeley National Laboratory, working on the project "Ballistic Phonon Trajectories in Heat Distribution." Developed a robust pipeline to automate and execute thousands of simulations on Perlmutter, enabling efficient analysis of phonon behavior and its impact on heat distribution as well that an implementation of a code to generate, run and analyze classical molecular dynamics to extract thermodynamics properties, applied to Nickel-titanium alloy with points defects.

  July 2024 - August 2024
- **Research Assistant** at The University of Texas at El Paso under the mentorship of Professor Jorge Muñoz, contributing to advanced projects in computational physics and materials science. Developed and implemented computational frameworks to manage and analyze large datasets,

extracting mechanical and thermodynamic properties from molecular dynamics and density functional theory (DFT) calculations. **January 2022 – May 2023**

Honors and awards

2025 GERA Energy Workshop Travel Award: Selected and funded to participate in the workshop hosted by the APS Topical Group on Energy Research and Applications (GERA), focused on advancing energy research.

Algorithms for Multiphysics Models in the Post-Moore's Law Era Workshop Travel Award: Selected and funded to attend in Algorithms for Multiphysics Models in the Post-Moore's Law Era Workshop at Los Alamos National Laboratory.