

Education

University of Puerto Rico, Mayagüez

BS Theoretical Physics, Minor in Applied Mathematics [Current GPA: 3.82]

2015 – 2020

Mayagüez, PR

Experience and Internships

REU Cornell University

Cornell University

June 2019 – August 2019

Ithaca, NY

- Evaluated strain gauge measurements of carbon fiber Dee for the CMS Phase-2 Upgrade of the Tracker Forward Pixel Detector.

REU University of Michigan

CERN (European Organization for Nuclear Research)

September 2018 – December 2018

Geneva, Switzerland

- Tested various analysis examples for preservation and reproducibility via computational workflows for the CMS Experiment.

Non-Member State Summer Student Program

CERN (European Organization for Nuclear Research)

June 2018 – August 2018

Geneva, Switzerland

- Wrote computational workflows for a CMS physics analysis, of 2011-2012 raw data and Monte Carlo simulations for the reimplementation of the Higgs boson discovery.

Research Projects

CMS UPRM Particle Physics Group

August 2017 – Present

- Worked with **Dr. Sudhir Malik**, a focused in High Energy Physics research group doing analysis involving the event display and identification of particles due to proton-proton beam collisions in the CMS Detector. More in depth, analysis on supersymmetry, and top tagging.

Astrophysics Student Research Program at the Arecibo Observatory (NAIC)

January 2014 – Jun 2015

- Research study of the effects of geomagnetic storms in the interplanetary magnetic field, and Earth's atmosphere.

Achievements

Published Article "CERN, the place to be", SPS Observer, Spring Issue 2019

Plenary Talks "On-Demand Distributed Workflows for Physics Analysis at the CMS Experiment", CERN (Dec. 2018), APS April Meeting (Denver, Apr. 2019), CUWiP (Northwestern University, Jan. 2019), PRISM/JTM (UPRM, May 2019)

Dean's List & Honor Roll Excellence in Physics

Scholarship Recipient ACJ (Retired Professors Association) Scholarship

Extracurriculars Society of Physics Students (SPS), American Physical Society (APS), Students for the Exploration and Development of Space (SEDS)

Skills

Programming Matlab · Python · C++ · \LaTeX · Shell · Docker · LabVIEW · Git

Course Work **Physics:** Electromagnetism, Intro to Quantum Mechanics, Statistical Thermodynamics, Modern Physics, Classical Mechanics, Waves and Optics; **Mathematics:** Linear Algebra, Probability and Statistics, Applied Math I and II, Partial Differential Equations, and Numerical Analysis.

Talents Acting, dancing, singing, and plastic arts.