Ruben Esteche Araújo
Curriculum Vitae

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Education

Federal University of Pernambuco — Recife, PE
Master of Science in Physics, Advisor: Eduardo O. Dias — May 2021–Present
- CAPES Academic Excellence Program Fellowship

Descomplica Cursos Livres S.A. — Rio de Janeiro, RJ
Postgraduation in data science — July 2022–Present

Federal University of Pernambuco — Recife, PE
Bachelor of Science in Physics, Advisor: Wilson Barros — 2015–2020
- Undergrad Project: Fluid Interfaces: Curvature relations and Euler elastics.

Work Experience

- **Data Scientist and Machine Learning Researcher** at DELL Lead — July 2022 - Present
  - Researcher at W.A.L. project *(Website Acessibility Layer)* - responsible for machine learning engineering with NLP models and creating data visualizations.
  - Worked on all software development stages of a python APIrest with Fast API, Docker, Postman and JMeter.
- **Teaching Assistant** at Federal University of Pernambuco — July –December 2019
  Physics for Computer Science (FI582) teacher: Prof. Fernando Luis de Araujo Machado

Extracurricular Experience

XXXVI EFNNE - Physics Congress — Fortaleza, CE
Largest conference of the Brazilian Society of Physics in the North/Northeast of the country. — Nov 2022
- Oral presentation of my M.Sc. research and results.

CODATA-RDA School of Research Data Science — São Paulo, SP
ICTP South American Institute for Fundamental Research (ICTP-SAIFR) — May 2022
- Winter School as specialization for Data Analysis Applied to Research

ITA Physics Workshop — São Paulo, SP
Technological Institute of Aeronautics (ITA) — July 2021
- Poster presentation on my current M.Sc. research

OSA & SPIE Student Chapters — Recife, PE
The International Society of optics and photonics event — July 2020
- Mini-course: Quantum Information & Computation foundations

PET - Tutorial Education Program — Fortaleza, CE
UFC - Federal University of Ceará program — July 2020
- Mini-course: Convolutional Neural networks with Tensorflow

Fellowship

- Graduate Fellowship, CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior), Brazil (88887.623604/2021-00) May 2021–2023

Interests

- **Quantum Entanglement** Causality relations in superposed systems
- **Quantum computing and information** algorithms and experimental work, Quantum Machine Learning
- **Data Science and Statistical Methods** Python, C, Mathematica
- **Back/Front-End programming** C++, HTML, JavaScript

Languages

- **Portuguese:** Native speaker
- **English:** Fluent
- **French:** Intermediary (Course Delf certificate B1)
- **Spanish:** Intermediary

Projects

- M.Sc. Research - A Space-Time symmetrical extension of quantum mechanics (2021–Current) From the construction made by DIAS, E. O.; PARISIO, F. Space-time-symmetric extension of nonrelativistic quantum mechanics. Physical Review A, APS, v. 95, no. 3, p. 032133, 2017, we developed numerical and analytical modeling as well as physical interpretations for different experimental conditions of time of arrival and tunneling time in a quantum regime.

  Collaborators: Prof. Eduardo Olímpio Dias (Federal University of Pernambuco), Ricardo Ximenes (Physics Ph.D. Student, UW-Madison)
- Undergraduate Research - Fluid Interfaces: Curvature relations and Euler elastics. (2016–2017) We revisited Euler's studies of elastic in an attempt to analytically describe the curvature relationships between a two immiscible fluid system with different boundary conditions and viscosity. We conducted experiments in this system and the project was a great opportunity to learn about the experimental routine in laboratory.

  Collaborator: Prof. Wilson Barros Júnior (Federal University of Pernambuco)

References

- Prof. Eduardo Olímpio Dias 2021–Current
  Physics Department, Federal University of Pernambuco, Cidade Universitária-REC e-mail: eduardo.dias@ufpe.br
- Prof. Wilson Barros Júnior 2016–2017
  Physics Department, Federal University of Pernambuco, Cidade Universitária-REC e-mail: wilson.barros@gmail.com