

Vitor Ferreira Grizzi

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EDUCATION

Universidade Federal de Pernambuco - Recife, Brazil

Bachelor of Energy Engineering

2015 - 2020

- Focus on Nuclear Engineering

University of Illinois at Urbana-Champaign - Champaign, IL, United States

Ms. in Nuclear, Plasma, and Radiological Engineering

2021 - Present

- Advised by Dr. Yang Zhang

RESEARCH INTEREST

- Statistical Mechanics and Condensed Matter Physics
- Ab-Initio Molecular Dynamics Simulations of Molten Salts

WORK EXPERIENCE

University of Illinois at Urbana-Champaign – Urbana, IL, United States

Research Assistant

2021 - Present

- Perform Ab-Initio Molecular Dynamics Simulations of Molten Salts using VASP and analyze the data to determine its thermophysical, transport, and structural properties.

Centro Regional de Ciências Nucleares do Nordeste – Recife, Brazil

Nuclear Engineering Intern

December 2020 – June 2021

- Hot channel analysis of advanced PWR nuclear reactors
- Investigated coolant boiling conditions, DNB margins, and critical heat flux

Glutty Hamburgueria Sustentável – Recife, Brazil

Co-Founder

September 2019 – November 2020

- Created a business model for a vegan burger startup, including marketing and logistic strategies
- Developed monthly budgets, cash flow statements, and financial reports
- Managed daily operations and supervised employees' performance

Universidade Federal de Pernambuco – Recife, Brazil

Materials Science and Engineering Teacher Assistant

March 2019 – July 2019

- Assisted students individually and in small groups with solving homework and practicing problems
- Provided detailed breakdowns for concepts such as atomic structure, semiconductors, and phase diagrams

PROJECTS

Undergraduate Thesis

- Performed a thermal-hydraulic analysis of the hottest subchannel in an advanced PWR reactor's core (AP1000) to determine DNB margins, boiling conditions, and safety margins using an array of numerical methods in Python

Long-Term Wind Speed Forecast

- Used 20 years of data from ECMWF reanalysis data and two years of wind speed data measured in an underdeveloped Brazilian region (Paracuru - CE) to do a wind resource assessment of the region
- Performed data cleaning, analysis, and visualization in Python and used statistical downscaling methods
- Employed Machine Learning techniques to train a time series forecasting model and estimate the capacity factor of a wind turbine (V90-2.0MW) following the IEC 61400-12 standard procedures

SKILLS

- Python and SQL
- Scientific Computing (NumPy, SciPy), Data Analysis (Pandas), Machine Learning (Scikit-Learn, TensorFlow)
- Amazon Web Services (Lambda, EC2, S3, IoT, Analytics, SageMaker, Rekognition)
- Microsoft Office (Excel, Word, PowerPoint)
- Fluent in Portuguese and English, and intermediate in Japanese and Spanish