Dinorah Ramírez

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Experience

Momento + Capital Feb 2024 –
Software Engineer Intern *San Pedro Garza García, Nuevo León*

- Programmed financial analyses, created monitoring codes, and developed predictive models for both Mexican and international markets.
- Focused on APIs, Python, and MySQL, with a strong emphasis on optimization, improving daily employee tasks by over 70%.
- Proficient in JSON structure and various libraries ranging from basics like numpy, pandas, plotly, sqlalchemy, and datetime to more complex machine learning-related libraries such as prophet, keras, and LSTM.

Monterrey Institute of Technology and Higher Education Jan 2022 – Jul 2023
Data Analyst *Monterrey, Nuevo León*

- Implemented analytical models using Google Analytics, Python, and Excel to enhance the student experience.
- Compiled monthly reports on student data, leveraging AI and Microsoft tools to provide insightful, data-driven observations for informed decision-making.

Research

Advanced Materials Research Center | *Detection of the percolation threshold using image classification algorithms*

Advisor: Pavel Vorobiev

- Detected the percolation threshold using image classification algorithms by simulating circular particles in a 2D space and classifying images into ”percolates” and ”does not percolate” categories to generate a database.
- Trained an image detection algorithm using the Prophet library and tested its effectiveness with images obtained from scanning electron microscopy.

Innovative Projects

Gemma multi-device | *LaTeX, Comsol Multiphysics 6.0, Matlab* Advisor: José Ignacio Huertas Cardozo

- Developed a device that combines luminous, voltaic, and thermal energy.
- Utilized fiber optics to transport energy to locations requiring natural lighting and generated electrical energy through third-generation semi-transparent photovoltaic modules and thermal energy through a heat exchanger.
- Programmed the Arduino light tracker and used COMSOL Multiphysics 6.0 to monitor and optimize the Fresnel lens.
- Principal competitor in XIGNUX Challenge 2023 and presenter in EXPOINGENIERÍAS 2023.

Portfolio | https://miscompetenciastec21.tec.mx/elumen/portfolio/5KaKYBxUEN0fqwJ20

Education

Monterrey Institute of Technology and Higher Education June 2020 - June 2024
Bachelor of Science in Physics (GPA: 3.7)(Precent grade: 93) *Monterrey, Nuevo León*

- **Relevant Coursework:** Analysis of Optical Phenomena, Application of Alternative Energy Sources, Analysis of Quantum Systems, Analysis of Thermodynamic and Statistical Systems.
- **International experience in Madrid, Spain:** Bachelor of Business Administration - BA, International Business

Proactive student actively engaged in student groups, including CAPTEC, SAERO, and SATEM. Directed events and led administration tasks by incorporating cutting-edge design and AI technologies. Demonstrated excellence in overcoming academic challenges throughout my degree, showcasing a commitment to continuous growth and success.
IELTS 6.5 - B2 (contact me for .PFD)

Certifications

MATLAB for Data Processing and Visualization: Create custom visualizations and automate data analysis tasks.
Introduction to machine learning:Foundational understanding of machine learning models (logistic regression, multilayer perceptrons, convolutional neural networks, natural language processing) and their applications.
Density Functional Theory:Foundation (mathematical and historical), approximation strategies, and practical procedures to solve equations..

Technical Skills

Languages:Python, JavaScript, C++, Matlab, LaTeX, HTML, CSS, Comsol Multiphysics 6.0, MYSQL, PowerBI
Technologies:WordPress, Jupyter, Jupyterlab, Visual Studio Code, GameMake, AI Technologies, Google Collab
Concepts:Compiler, Operating System, Virtual Memory, Artificial Intelligence, Machine Learning, Neural Networks, API, Web Development, Optimization
Communication:Slack, Asana, Github, Teams