Emily Natasha Diaz Badilla

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• https://github.com/emsdiaz

Education

MS, Data Analytics Engineering
Northeastern University, Boston, USA **August 2023**

- GPA: 4.0
- Fulbright Scholarship from the U.S. Department of State
- Courses taken: Foundations of Data Analytics, Deterministic Operations Research, Computation and Visualization for Analytics, Data Management for Analytics

Bachelor of Science, Statistics
University of Costa Rica, San Jose, Costa Rica **February 2017**

- Graduated with honors

Work experience

Mckinsey & Company, Costa Rica

Specialist, Data Scientist **June 2020 - June 2021**

- Co-designed and executed end-to-end analytics pipelines for top players in the Oil & Energy industry within North America using Python and Kedro as well as storing and collaborating to the code with Github
- Improved demand forecasting models at a client by implementing Prophet time series algorithm in Python
- Managed a team of 2 data scientists over a predictive maintenance project for a key player in the coal energy industry. We developed 30+ models for different components of the energy generation process and different plants.
- Built a team of 5 data scientists from scratch as part of creating an Innovation Center in one of the main Banks in Ecuador. On charge of on-boarding process and served as a technical leader at their first 2 projects: Credit scoring model and Best product to Buy algorithm

Senior Fellow, Data Scientist **December 2018 - May 2020**

- Built tree-based models such as XGBoost and Random Forest in Python for income estimation at a Bank in Latin America
- Co-developed pricing models for a CPG client using LightGBM deployed on Microsoft Azure through. Coded a proof-of-concept R shiny dashboard to monitor the model results and adoption

Analytics Fellow **December 2017 - December 2018**

- Computed Machine Learning models for clients in Latin America, focused on Banking commercial analytics
- Leveraged R for supervised and unsupervised analysis as well as Tableau for data visualization

Junior Research Analyst **January 2017 - December 2017**

- Designed analytical solutions to improve CPG and Banking businesses across Latin America with techniques such as linear regressions, clustering analysis and tree-based models

Analytics Intern **March 2016 - December 2016**

- Reengineered recurrent reporting processes for the Mckinsey Global Institutes Team reducing updating time

Publications

- Devanga, A and Diaz Badilla, E and Dehghanimohammadabadi, M. (2022). Applied Reinforcement Learning for Decision Making in Industrial Simulation Environments. Unpublished manuscript, Department of Mechanical and Industrial Engineering, Northeastern University, Boston, Massachusetts, USA.
- Belsare, S and Diaz Badilla, E and Dehghanimohammadabadi, M. (2022). Reinforcement learning with discrete event simulation: the premise, reality, and promise. Unpublished manuscript, Department of Mechanical and Industrial Engineering, Northeastern University, Boston, Massachusetts, USA.

Technical Skills

- Analytical knowledge: Probability and Statistics, Tree-based models, Generalized Linear Models, Neural Networks, Reinforcement Learning
- Programming languages: Python, R, SQL, Pyspark,
- ML libraries: Keras, pytorch, scikit-learn, pandas, numpy, kedro, prophet, xgboost
- Software and platforms: Tableau, Git, Microsoft Azure, Databicks, Alteryx, IBM Watson, Excel, Jira, Confluence, Trello, MongoDB, Neo4j
- Microsoft Certification - Azure Fundamentals (2020)

Volunteering

Project Coordinator at "*Costa Rican female data scientists*" – Costa Rica **June 2020 - Present**

- Co-developed mentoring program to pair 30 young women with experienced mentors with the objective of helping mentees on STEM career development
- Implemented free preparation course for university admissions tests in Costa Rica with over 500 students from all over the country benefiting from it yearly