MONICA PUERTO

www.monicapuerto.com

10 years work experience of data analytics. Experience in machine learning/data science, geospatial processing, natural language processing, hugging face ,Python, R, SQL AWS, GIS, JIRA, A/B testing, web frameworks (Shiny), statistics, web scraping, git version control, APIs,project management, agile framework, and data visualization. Spanish speaker.

University of Maryland, Baltimore County, Adjunct Professor   *January 2022- May 2022*

- Teach Data Science 101 to graduate students and cover Data Science 101 fundamentals in Python ranging from data visualization, git control, database management / sql, and linear and logistic regression modeling.

Accenture Federal Services, VA, *Analytics Associate Manager*   *July 2021- Present*

- As the Data Science subject matter expert I mentor other employees on advanced analytics projects ranging from regression analysis to NLP and machine learning.
- Evaluate transcription models for call centers, perform emotion recognition, and topic modeling.
- Create model evaluation pipelines specifically for NLP.
- Hold client facing meetings, collect requirements and present findings on data science / machine learning analysis.
- Built an NLP model classifying documents related to climate change with an ~80% accuracy.

American University, Washington, DC *Graduate Student*   *January 2020-May 2021*

- Built a multilabel classification model that operated as a topic model that classified research abstracts into four categories and performed well above baseline accuracy.
- Created word and document embeddings from the outputs of 3 NLP models; BERT, W2vec, and LDA and compared the tradeoff between explain ability and accuracy.
- Created a pipeline that utilized the LIME package for classification explanations.
- First author on paper that was accepted and presented at NTREM 2022

AFSCME, DC *: Data Scientist*   *July'19- June 2021*

- Improved data updates with AWS tools like S3, Redshift, and the AWS Command Line Interface to support our database management that updates millions of records of membership data, commercial data, and voter files.
- Improved our inhouse classification model by +15% accuracy yielding an 75% accuracy and a 80% sensitivity on who is most likely to join a union utilizing a Random Forest Model.
- Improved weighting and sampling methods for our poll center and providing top lines in R.
- Worked with Census Data to understand voting and labor organizing universes and for statistical analyses using R and Python.
- Create dashboards using our business intelligence tool, Periscope for internal stakeholders.
- Created a code review process when there was none in my team.

UPSIDE TRAVEL,DC *: Forecasting & Op Analyst*   *Nov'17- June'19*

- The lead business intelligence analyst in my team by utilizing ETL and creating dashboards highlighting our customer experience in Looker.
- Improved a model to a 95% accuracy and 99% sensitivity that classified fraudulent transactions and saved my company thousands of dollars in preventing chargebacks.
- Utilized Natural Language Processing (NLP) with Python to analyze customer sentiment.
- Analyzed occupancy of our call centers to be staffed appropriately to meet SLAs.

NATIONAL GEOGRAPHIC ,DC *: Ecommerce Manager of Analytics*   Nov'14- *Nov'17*

- Create and execute multiple digital marketing campaigns over a budget over a $1M that showed profitable ROI through display, Facebook, and email.
- Created many digital experiments on our A/B testing tool, Monetate and created personalized experiences for users and leveraging HTML/CSS improving conversion by 200%.
- Power user of our of BI tool Domo and in charge of the ETL for website and social media data sources.

DISCOVERY NETWORKS INTERNATIONAL , Miami, FL *: Intl Digital Strategist*   *Oct'12- Nov'14*

- Gained international business development experience in the digital landscape.
- Responsible for the ETL of various monthly reports that reported on a global digital footprint using a variety of online sources (Facebook/Youtube/Twitter/Google Analytics).
- Created Sales Decks, Media Kits, and Ad hoc requests for International Markets
- Led Google Analytics training sessions (trained over 200 colleagues)

Education

- American University Data Science MS May 2021
- Florida State University in 2012 with a BS in Finance and Marketing (Dean's List)
- 2 courses at General Assembly: Data Analytics (2016) & Data Science (2018)
- [American University Data Science Fellow 2020](#)
- Textbook Award recipient at American University 2020

Certifications

- [AWS Machine Learning Specialty Certification June 2021](#)
- ICAgile Certified Professional Implementing DEVOPS April 2021
- ICAgile Certified Foundations of DEVOPS April 2021

Publications

- Z. Boukouvalas, M. Puerto, D. C. Elton, P. W. Chung, M. D. Fuge. "Independent Vector Analysis for Molecular Data Fusion: Application to Property Prediction and Molecular Knowledge Discovery". to appear in Proceedings of the 28th European Signal Processing Conference (EUSIPCO 2020)

- M.Puerto, M.Kellett, R.Nikopulou, M.D. Fuge, R. Doherty, P.W. Chung, Z.Boukouvalas. "Assessing the trade-off between prediction accuracy and interpretability for topic modeling on energetic materials corpora". Accepted and presented at NTREM 2022