BRIAN LLINAS
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SUMMARY

Ph.D. student in Computer Science currently studying at Old Dominion University in Norfolk, United States. As a Graduate Research Assistant, I have expertise in data processing, visualization, machine learning, deep learning, and natural language processing. I have gained a broad range of research experience across different topics, from finance and port logistics to forced migration and text accessibility for visually impaired university students. During my academic career, I have collaborated with universities in Colombia and the United States to develop computational insights about frustration toward migrants in global refugee host communities. I am proficient in multiple programming languages, including R, Python, SQL, and Power BI.

EDUCATION

Ph.D. in Computer Science

Old Dominion University, Norfolk, United States [01/2023 – 05/2027 (expected)]

BS. in Industrial Engineering

Universidad del Norte, Barranquilla, Colombia [01/2018 – 12/2022]

SKILLS

- *Software:* Python (Pandas, Numpy, Scikit-learn, LangChain, spaCy, PyTorch, TensorFlow, Keras, Streamlit), R (Tidyverse, Tidymodels, Shiny), Power BI, SQL, PHP, HTML, Javascript,
- *Machine Learning:* Regression, Classification, Clustering, PCA
- *Deep Learning:* optical character recognition (OCR)
- *Natural Language Processing:* Transformers, Hugging Face, Large Language Models
- *Version Control:* Git/GitHub
- *Language:* Spanish (Native), English (B2), German (A2)

RESEARCH ASSISTANT EXPERIENCE

Graduate Research Assistant, Virginia Modeling, Analysis & Simulation Center [01/2023 – Current]

- Develop innovative statistical models, such as beta regression and path models, to better understand the frustration of locals toward migrants.
- Fine-tune and improve the knowledge domain with retrieval-augmented generation (RAG) for LLMs, such as name entity recognition, NetLogo coding, and data analysis.
- Create interactive and accessibility tools for non-modelers using Streamlit such as deep learning architectures, optical character recognition, and data analysis using LLMs.
- Collaborate and assist with developing grant proposals on new research topics, additionally work with graduate students and international researchers in four countries, representing two university partnerships and comprising a team of over 20 collaborators.
- Connect international graduate students across universities and disciplines through a podcast and no-pressure zone, fostering collaboration and support in sister labs.
- Provide weekly reports to an international team of faculties and partners.
- Presented research results in SBP-BRiMS 20023 in Pittsburg, PA, MSVSCC 2023, in Suffolk, VA, and

attendance Minerva Meeting & Program Review 2023 in Arlington, VA

SIMAS-UN / VMASC Storymodelers, Universidad del Norte [03/2022 – 12/2022]
- Develop innovative ways using forecasting models like ARIMA and ML to assess qualitatively coded newspaper data from Greece and Colombia to measure "frustration" towards migrants.
- Collaborate and report weekly to an international team of faculty and partners.

WORK EXPERIENCE

Data Scientist, DataLeik S.A.S. [09/2022 – 12/2022]
- Extract, clean, and visualize customer data from a cloud server. Implement machine learning models to create prescriptive and predictive models.

Junior Data Scientist, Fintra S.A.S. [07/2022 – 09/2022]
- Extract, clean, and visualize customer data from a cloud server. Implement machine learning models to create prescriptive and predictive models.

Bilingual Customer Service Representative, Teleperformance CO [11/2021 – 01/2022]
- Responded to and resolved customer inquiries in English and Spanish.

Freelance Data Scientist [2020 – 2022]
- Built a dashboard for probabilistic distributions, conducted bibliometrics, text mining, and survey analysis in R.

Assistant Consultant, Universidad del Norte, AventurEmoNos en Familia Program. [2021 – 2022]
- Performed survey statistical analyses from two databases using R software.

Smart Cities and Smarts Ports - Universidad del Norte [02/2022 – 12/2022]
- Contribute to projects and sessions on logistics and simulation.

Analytics Research Lab, Universidad del Norte [08/2020 – 12/2022]
- Contribute to projects on data analytics, machine learning, and data science.

Operations Research SIO, Universidad del Norte [08/2020 – 12/2022]
- Contribute to projects and sessions on operation research.

Asociación Nacional de Estudiantes de Ingeniería Industrial, Productiva y Administración (ANEIAP), Universidad del Norte [01/2019 – 12/2022]
- Contribute to projects on Industrial Engineering. Serve as Finance Director and Chair.

Data Challenge Participant, Centro de Excelencia en Sistemas de Innovación (CESi) [12/2020 – 04/2021]
- Built a data dashboard of restaurant customers' perceptions in the Atlántico state and provided descriptive information about local restaurants using R.

PUBLICATIONS

Llinas, B., Huseynli, G., Frydenlund, E., Palacio, K., Llinas, H., & Padilla, J. J. (2023, September). Assessing Media's Representation of Frustration Towards Venezuelan Migrants in Colombia. In International Conference on Social Computing, Behavioral-Cultural Modeling and Prediction and Behavior Representation in Modeling and Simulation (pp. 126-135). Cham: Springer Nature Switzerland.

Llinas, B., Huseynli, G., Frydenlund, E., Palacio, K., & Padilla, J. (2023). Assessing Frustration Towards Venezuelan Migrants in Colombia: Path Analysis on Newspaper Coded Data.

PAPERS IN PROGRESS

Llinas, B., Botello, J.G., Martínez, J., McLeod, M., Miller-Felton, M., Frydenlund, E., & Padilla, J.J. (2024). AI-Driven App for Accessibility in Education: Converting Scanned Documents to Readable Text for Students with Low Vision. *[Accepted]*

Martínez, J., Llinas, B., Botello, J.G., Padilla, J.J., & Frydenlund, E. Making LLM Proficient in NetLogo: Comparing Prompt Engineering VS Retrieval-augmented generation (RAG). *[Submitted]*

Dabhi, S., Martínez, J., Llinas, B., & Poursardar, F. Combating Fake Knowledge Injection to LLMs by Increasing Authenticity of Document Retrieval. *[Working].*

Llinas, B., Frydenlund, E., Palacio, K., Llinas, H., & Padilla, J. J. Assessing Frustration Towards Refugees and Migrants in Colombia and Greece: Power Law Analysis on Newspaper-Coded Data. *[Working].*

Llinas, B., Frydenlund, E., Palacio, K., Llinas, H., & Padilla, J. J. Path Model Methodology (statistical analysis). Case Study: Assessing Frustration Towards Venezuelan Migrants in Colombia. *[Working].*

Llinas, B., Frydenlund, E., Palacio, K., Llinas, H., & Padilla, J. J. Beta Regression Analysis of Frustration Types Towards Syrian, Afghan, and Iraqi Migrants in Greece and Venezuelan Migrants in Colombia. *[Working].*

Llinas, B., Frydenlund, E., Palacio, K., Llinas, H., & Padilla, J. J. Assessing Frustration Towards Venezuelan Migrants in Colombia: Power Law and PCA Analysis on Newspaper-Coded Data. *[Working].*

TEACHING ASSISTANT EXPERIENCE

Engineering Data Analysis II (College of Engineering)
　　　Universidad del Norte [08/2022 – 07/2022]
Integral Quality Management and Control (College of Engineering)
　　　Universidad del Norte [08/2022 – 07/2022]
Engineering Data Analysis I (College of Engineering)
　　　Universidad del Norte [01/2021 – 07/2021]

HONORS AND AWARDS

- *Graduate Research Assistantship – Virginia Modeling Analysis & Simulation Center [01/2023]*
- *Distinguished student of the Industrial Engineering program Universidad del Norte [12/2022]*
- *'Auxilio Pacto Colectivo' Scholarship Universidad del Norte [01/2018]*
- *Academic Excellence Award Colegio Sagrado Corazón de Jesús, Via Puerto Colombia [12/2017]*

UNIVERSITY PROJECTS

Final Project: Design of a machine learning model for predicting academic performance based on resilience (Postulated to CUM LADE thesis) [01/2022 – 06/2022]. Description: Classification models were designed using the techniques of Decision Trees, Random Forest, and XGBoostrap using the scikit-learn package in Python. [Link](#)

Engineering Data Analysis II Final Project: Dashboard for Road Accidents in the United Kingdom [12/2020]. Description: Dashboard in R integrates structured data of the records of different accidents that occurred in the UK, an interactive map with the location of the accidents, statistics, and a logistic regression model to classify the accident's severity. [Link](#)

Analytics Research Lab Mini Project: Predictive Maintenance with Machine Learning Models [08/2020 – 09/2020]. Description: A prototype data science application in R as a proposed solution to enterprise-level problems focused on predictive maintenance systems with machine learning models. [Link](#)