Enrique David Guzman Ramirez

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Professional Interests

My interests are centered around Deep Learning, Natural Language Processing and lately Trustworthy Machine Learning. I have experience working as a Data Scientist where I gained hands-on experience with ML projects for various use cases.

Education

MSc in Applied Computing
University of Toronto, Department of Computer Science *Sep 2022 – Dec 2023 (expected)*
Courses (ongoing): CSC2501 Computational Linguistics, CSC2559 Trustworthy Machine Learning, CSC2701 Communication for Computer Scientists, CSC2516 Neural Networks and Deep Learning (winter), CSC2503 Foundations of Computer Vision (winter).

BSc in Data Science *9.60/10 GPA*
National Autonomous University of Mexico, Research Institute in Applied Mathematics and Systems *August 2019 - June 2021*
Courses: Applied Probability and Stochastic Simulation, Statistical Methods, Big Data, Data Mining, Machine Learning, Introduction to Deep Learning, Pattern Recognition, Natural Language Processing, Text Mining.

BSc in Physics *9.54/10 GPA*
National Autonomous University of Mexico, Faculty of Science *August 2015 - June 2020*
Courses: Quantum Mechanics, Relativity, Statistical Physics, Computational Physics, Statistical Learning and Data Analysis, Computational Geometry, Introduction to Numerical Relativity, Introduction to Quantum Computing.

Work Experience

Grupo Salinas *Mexico City*
Data Scientist *November 2021 - July 2022*
- Developed a collaborative filtering recommender system for the homepage of the E-commerce area with PyTorch, which increased precision at 10 by 50%.
- Developed a content-based recommender system and association rules for the product detail pages of the E-commerce area with scikit-learn and Mlxtend, automating the original 2 week manual process.
- Deployed and monitored ML models as APIs for various use cases with AWS SageMaker.

National Autonomous University of Mexico *Mexico City*
Teaching assistant *January 2019 - June 2019*
- TA at the Relativity class for physicists for the winter semester at the Faculty of Science. My job was to design the assignments, grade them and support the students in doubts that could arise.

Projects

Adaptive reversible lanes
National Autonomous University of Mexico *March 2021 - September 2021*
- Modified a traffic simulator in CoffeeScript in order to have reversible lanes and several types of vehicles in the simulator.
- Kept track of important metrics in the simulator in order to measure the impact of different strategies to reduce traffic, which showed that adaptive reversible lanes can improve traffic flow up to 40% compared to conventional reversible lanes.

Dynamics of black holes and fundamental scalar fields
National Autonomous University of Mexico *June 2019 - February 2020*
- Solved numerically some of the analytical solutions of Einstein field equations in Julia with explicit Runge-Kutta methods in order to visualize the shadow of a black hole.
- Created a survey on the study of black holes shadows for undergraduate students.

Certifications

2022 **AWS Certified Machine Learning - Specialty (MLS-C01 🔗)**

Technical skills

Programming Languages	Python, Julia, R, Fortran, SQL.
Machine and Deep Learning	Scikit-learn, PyTorch, Keras, TensorFlow, PySpark MLlib.
Cloud services	AWS.
Databases	PostgreSQL, Redshift, MongoDB, Redis.
Miscellaneous	Linux, Git, LaTeX, Scrum.

Awards

2022 **Vector Scholarship in Artificial Intelligence Recipient 2022-2023.**
2019 **Support Program for Research and Technological Innovation Projects (PAPIIT, Mexico).**