ADRIÁN AUGUSTO FERRER ORGAZ

DATA SCIENTIST AND MACHINE LEARNING ENGINEER

(+52) 553-072-0140 | aafo1416@gmail.com | AdrianFO | AdrianFO-16 | ONLINE PORTFOLIO

PROFILE

Self-motivated and dedicated Data Scientist and Machine Learning engineer with international academic and professional experience. Highly interested in Artificial Intelligence and Machine Learning.

LANGUAGES

- Spanish (native)
- English (advanced C1)
- French (beginner A1)

SKILLS

- Machine Learning
- Data Analysis and Statistics
- Programming
- Autodidact / Self – Taught
- Problem Solving
- Flexibility and Adaptability

Programming Languages:

- Experienced:
  - Python, R, Matlab, Wolfram Mathematica
- Beginner/ Intermediate:
  - HTML5, CSS3, JavaScript, C#, Dart, C++

Frameworks/Soffware/Services:
Scikit-Learn, Keras, PyTorch, Streamlit, Dash, seaborn, Matplotlib, PowerBI, Azure, Odoo, Office.

Other Software:

- Adobe Photoshop (intermediate)
- DaVinci Resolve (beginner)
- Unity (beginner)

EDUCATION

Instituto Tecnológico y de Estudios Superiores de Monterrey, México
BS Data Science and Mathematics Engineering.

- August 2019 – 2023 (present).
- Beca al Talento Académico (Academic Talent Scholarship) (2019).

École Polytechnique Fédérale de Lausanne (EPFL), Switzerland
Exchange Semester in Data Science and Computer Science Master program courses.

- Fall Semester 2022- 2023
- Highlighted courses taken:
  - Applied Data Analysis (CS-401)
  - Machine Learning (CS-433)
  - Applied Machine Learning (MICRO-455)

CERTIFICATIONS

- IELTS Band 8 CEFR C1 Level Certification (2022)
- Machine Learning Scientist with Python, Datacamp (2020)
- Machine Learning Fundamentals with Python, Datacamp (2020)

AWARDS

- 3rd place in an NDS Cognitive Labs sponsored machine learning team competition, HackMx (2021)
  - Fraud detection simulation in an e-commerce web application. Leaded modeling and machine learning tasks (Anomaly detection and classification algorithms).

PROFESSIONAL EXPERIENCE

Software & Data Engineer @ Singular Beacon (May 2023 – present)

- Odoo development.
- Data engineering and analysis solutions designer using Python.
- Data engineering with Azure Data Factory. ETL designer and data management supervision.
- Dashboard solutions with PowerBI.

RESEARCH EXPERIENCE

"Hacking the Oscars data story" (2022) (link)
"Hacking the Oscars" is a project developed as part of the Applied Data Analysis EPFL course. Elaborate data wrangling performed on CMU movie summary corpus dataset along with IMDb datasets to understand movie success through data-driven approach. Statistical differences between highest rated and lower rated movies are explored. Use of unsupervised learning techniques such as Latent Dirichlet Allocation for movie summary plots for feature engineering and interpretation. Participated actively in code and analysis design, developed the presentation web page (data story).

"Credit Scoring using Advanced Multivariate Linear Regression Analysis" (2021) (link)
Project developed under the supervision of Mexican corporation Pretmex. Tasked with expanding a previous empiric-developed credit score scale based on previous client data. The data was analyzed with the aid of the newly created scale and with advanced correlation and multivariate linear regression analysis. Separation and classification with these statistics and other machine learning techniques to predict client credit standing. Lead code developer and project designer.

"E-commerce vehicle capacity vehicle routing problem (CVRP) optimization" (2021) (link)
Project developed under the supervision of Mexican nationwide department store Coppel. An alternate solution methodology is proposed for NP-hard CVRP using clustering local optimization algorithms and regular travelling salesman problem.

"Semi-supervised anomaly detection based on autoencoders" (2020-2021)
Supervision and evaluation of various trained models, development of code, Neural Network architectures, and code execution on several environments. Development under supervision of Ph.D. Miguel Ángel Medina Pérez.

"Multilayer Neural Network for death probability prediction in COVID-19 patients" (2020-2021) (link)
Presented in 51 Congreso de Investigación y Desarrollo, Tecnológico de Monterrey. Prediction of death probability for a patient based on certain comorbidities and other factors. Concept as an auxiliary tool to aid in prioritizing medical attention. Leaded code architecture and web app development. A streamlit web app is presented with the results of the model iterations.

OTHER EXPERIENCE

Online Portfolio (2022–present) (link)
Web Portfolio developed with the purpose of learning HTML, CSS, JS, etc. and also complement my academic/professional profile while doing so. Linked in header, also available at Portfolio.

"Digital Signature (DS) scheme implementation application" (2022) (link)
Project developed under the supervision of non–lucrative Mexican organization Teletón. A multidisciplinary project with the objective of making cryptographic technology accessible for non–technical users. Main designer of code, app functionality and user cycle. Developed the main logic and Python code blocks to be used in the final application, assisted in UI and app design. The final product consists of the app implementation of the DS algorithm and a promotion prototype web page.

"Topological Data Analysis (TDA) in gravitational wave data using time delay embedding" (2022) (link)
Analysis of clean and noisy gravitational wave data using time delay embeddings. Vietoris–Rips complex data persistence homology analysis. Classification of noisy and clean gravitational waves based on engineered features from persistence homology.

"Control Theory for building vibration control in earthquakes" (2022) (link)
Study of modern building LTI models, active and passive actuators concepts for vibration control during earthquakes. System modeled in Simulink and code in state space representation. Analysis of analytic and numeric solutions facing seismic excitation before and after the implementation of control techniques. Lead code developer and project designer.

Ruin Probability with Crammer–Lundberg Risk Model (2021) (link)
Project developed under the supervision of nationwide corporation AXA. Provided a dataset, based on monthly income, client claim amount distribution, and corporation reserve, ruin probability is computed. Results obtained via analytic solution of the Crammer–Lundberg model and simulation. Lead code developer and project designer.