

Manuel Antonio Arce Aguirre

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Experience

Senior Risk Consultant, Capgemini Consulting – Mexicali, Mexico Mar 2024 – Present

- Implemented an automatic monitoring system for a Product Classification **XGBoost** model using **Python** libraries (**EvidentlyAI**, **Boto3**), **Snowflake**, and **AWS SNS**, detecting drift and notifying the owner
- Conducted full-scope validation of the Enterprise Risk Management CAT Model, identifying flawed back-testing assumptions and highlighting non-compliance with model governance standards
- Oversaw **GenAI** projects for the **AI Oversight Council**, ensuring compliance with NAIC regulatory requirements reducing compliance review cycle times by 80%
- Developed a new Independent Model Validation Framework, incorporating standardized reporting and testing planning templates, reducing validation time by 50% compared to the previous framework

Data Scientist, Parzival – Guadalajara, Mexico Dec 2022 – Mar 2024

- Applied machine learning (**K-Means clustering**) with **scikit-learn** to segment residential and commercial customers, enabling targeted marketing campaigns that boosted ROI by 20%
- Developed a predictive maintenance model using scikit-learn for feature engineering and **Pytorch** for **neural network**-based failure forecasting, achieving 95% accuracy in predicting component failures
- Implemented supervised learning (**decision trees** and **random forests**) models using **scikit-learn** to accurately forecast monthly service demand, achieving a 12% reduction in operational costs
- Implemented geographic heat map profit and loss tracking by using **Python** and the **Service Titan API**, resulting in a 17% cost reduction

Data Engineering Internship, Continental AG – Guadalajara, Mexico May 2021 – Dec 2022

- Led expense meetings and created **PowerBI** dashboards, reducing unprofitable project selection by 15%
- Automated model testing with **Python** and **SAS PROC TIMESERIES**, decreasing testing time by 30%
- Migrated **SQL** data to Excel with team of 4, reducing documentation time by 50%

Data Science Internship, 3LIFE Insurance – Guadalajara, Mexico Jul 2020 – May 2021

- Led a team of 5 employees to replace physical data leveraging the **pytesseract Python** library and manage a **MySQL** database leading in a 30% reduction in data retrieval time
- Built forecasting **autoregressive models** in **R** and presented investment pitches with financial due diligence, achieving a 50% increase in company deal closures

Skills

Languages: R, Python, VBA, MATLAB, SQL, Java

Packages: Numpy, Pandas, Skicit-learn, Pytorch, PySpark, Evidently AI

Software: MetaRisk, Tableau, PowerBI, Excel, SAS, AWS SageMaker, Snowflake

Education

Universidad Autónoma de Guadalajara: Bachelor's Degree in Actuarial Science 3.8 GPA May 2024

Relevant Coursework: Financial Markets, Actuarial Modeling, Programming Languages, Databases, Data Mining, Time Series, Stochastic Processes, Linear Algebra, Statistics, and Actuarial Mathematics