Heriberto Espino Montelongo

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Education

Universidad de las Américas Puebla — Puebla, Mexico

Bachelor's Degree in Actuarial Science, GPA: 9.5/10. — 44 of 50 courses completed (2021 – 2025)

Relevant Coursework: Investment Portfolios, Derivative Products, Statistical Modeling and Regression Analysis, Time Series Analysis, Risk Theory, Measure Theory, Demography.

Universidad de las Américas Puebla — Puebla, Mexico

Bachelor's Degree in Data Science, GPA: 9.6/10. — 44 of 50 courses completed (2021 – 2025)

Relevant Coursework: Advanced Optimization, Pattern Recognition, Artificial Intelligence, Data Mining, Topological Data Analysis, Geospatial Data Analysis.

Projects

Predictive Modeling, Machine Learning and Portfolio Optimization — Puebla, México

Archieving the optimum portfolios for Spot and CFDs to different areas — 2024-2025

- Optimized portfolios using Markowitz and Black-Litterman models obtaining the best Sharpe ratios, Sortino ratios, Calmar ratios, and Treynor ratios.
- Simulated market behavior using Geometric Brownian Motion for traditional stocks and advanced stochastic processes (Constant Elasticity Variance, Variance-Gamma) for high-volatility assets.
- Simulated prices movements with SARMIA-GARCH models.
- Built a Forsets models by bagging, boosting and stacking for accurate classification and prediction of prices.

Activities

The William Lowell Putnam Mathematical Competition — North America

Competitor — December 2024

Competed in the most prestigious undergraduate mathematics competitions at North America level, solving problems in areas such as Number Theory, Algebra, Combinatorics, and Geometry.

Olimpiada de Matemáticas UDLAP — Puebla, Mexico

Participant — 2024, 2025

Top 10 among all university competitors from all areas, covering topics such as Algebra, Linear Algebra, Combinatorics, Statistics, Analytic Geometry, Set Theory, and Calculus.

Reto Actinver 2024 — Mexico

Participant — September 2024

Participated in a national financial challenge, focused on investment strategies. Analyzed market data, applied quantitative methods, and developed strategies to maximize returns while managing risk in a simulated investment environment.

Reto Coppel — Puebla, Mexico

Participant — March 2025

Applied Spectral Clustering to identify underperforming stores and used Queueing Theory to optimize service for improved operational efficiency.

Technical Skills

Programming Languages: Python, R, C, C++, SQL, Java, Mosel.
Office Tools: Microsoft Excel (advanced, including VBA), Word, PowerPoint, Power BI.
Database Management Systems: MySQL.
Version Control: Git, GitHub.
Scripting and Shell Environments: Bash (Ubuntu/Linux Terminal), PowerShell (Windows 11).
Markup and Document Languages: HTML, LaTeX, Markdown.