

Shelby Hernandez

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SUMMARY

Quantitative risk professional with expertise in statistical and geospatial modeling for catastrophe risk assessment. Combines actuarial techniques in loss reserving and forecasting with technical proficiency in Python, R, SQL, and ArcGIS to design end-to-end catastrophe risk models. Experienced in simulation frameworks, vulnerability functions, and exposure analysis. Master of Science in Applied Statistics; CAS Exam credit through Exam 5. Expanding expertise in catastrophe risk management through applied research and portfolio development.

WORK EXPERIENCE

Aon, Los Angeles, CA

Actuarial Consultant | 2021–Present

Senior Actuarial Analyst | 2018–2021

Actuarial Analyst | 2015–2018

- Design and implement advanced reserving and forecasting models that integrated traditional actuarial methods with real-world event drivers (e.g., COVID-19 disruptions, industry strikes, regulatory shifts) to improve scenario accuracy and credibility for clients across diverse industries.
- Engineered automated data pipelines in Python, R, and SQL to reconcile and prepare multi-source datasets, cutting data preparation time by nearly half and enabling rapid “what-if” scenario modeling for emerging risks.
- Partner closely with client risk managers to translate statistical outputs into actionable insights, aligning quantitative results with qualitative operational realities to guide strategic funding and retention decisions.
- Develop bespoke analytical approaches for niche liability portfolios (e.g., Film Production, Healthcare, Construction), incorporating exposure-specific drivers and stochastic elements to enhance forecast precision.
- Recognized by the Director of the Los Angeles office for innovative thinking and leadership through Aon’s *Talent & Development Program*; delivered award-winning client presentation on enterprise risk integration and multi-peril response strategy.
- Spearheaded Aon’s *Junior Ambassador Program* to connect early-career actuaries with national practice leaders, fostering collaboration and cross-practice knowledge sharing.

The Princeton Review, Los Angeles, CA

Private Tutor and Classroom Teacher | 2012–2015

- Built customized learning analytics to track student performance trends, improving average score gains by 15–20%.
- Translated complex quantitative concepts into practical learning strategies for diverse student populations.

Green Dart, Inc., San Pedro, CA

Statistical Consultant (Part-Time) | 2011–2013

- Designed forecasting tools to estimate future service costs, introducing quantitative rigor into small business operations.
- Streamlined monthly accounting workflows, improving transparency and accuracy.

EDUCATION

California State University, Long Beach, Long Beach, CA

Master of Science in Applied Statistics

University of California, Irvine, Irvine, CA

Bachelor of Science in Mathematics, Concentration in Economics

TECHNICAL SKILLS

- **Programming & Analytics:** Python (pandas, NumPy, SciPy, Matplotlib, GeoPandas), R (dplyr, ggplot2), SQL, SAS, VBA, Excel (Power Query, PivotTables)
- **Catastrophe & Geospatial Tools:** OpenQuake Engine, ArcGIS Pro, QGIS, CLIMADA, HAZUS
- **Statistical & Modeling Methods:** Generalized Linear Models, Time Series Forecasting, Regression, Monte Carlo Simulation, Loss Distribution Fitting, Bootstrapping, Scenario Analysis
- **Data Management & Visualization:** Data cleaning and transformation, interactive dashboards, geospatial mapping, data storytelling
- **Professional Development:** Credit through Actuarial Exam 5 (CAS), Aon Talent & Development Program Graduate, ISCM University Liaison Volunteer