

Greyson Arellano

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SUMMARY

Capital modeling and **P&C insurance** leader with 14 years of experience across **economic capital**, **enterprise risk**, catastrophe analytics, reinsurance, and actuarial modeling. Builds stochastic frameworks from first principles and applies **Monte Carlo simulation**, VaR, TVaR, dependency structures, diversification, and tail risk analysis to underwriting, reserve, investment, portfolio, and reinsurance decisions. Deep experience with ReMetrica, Python, R, catastrophe vendor outputs, treaty structures, capital allocation, RORAC, model validation, and controlled analytical environments. Established Git based development, automated reconciliation, regression testing, documentation, and production governance. Trusted partner to ERM, Actuarial, FP&A, Investments, Product, and catastrophe teams. Presents capital adequacy, stress testing, and model limitation conclusions clearly to executives, Boards, rating agencies, and regulators.

EXPERIENCE

Director, Economic Capital Modeling

July 2022 - Present

Granite Peak Assurance

Columbus, OH

Owns enterprise economic capital modeling across underwriting, reserve, catastrophe, market, credit, investment, and reinsurance risks. Leads independent challenge, **capital allocation**, model governance, and executive communication.

- Rebuilt **ReMetrica** calculations in **Python** for independent challenge and reconciliation.
- Designed **marginal capital** analyses supporting **RORAC** and combined ratio decisions.
- Modeled catastrophe treaties across attachment points, limits, and alternative structures.
- Established Git workflows with validation, regression testing, and **change control**.
- Presented stress tests and capital adequacy findings to Board and regulators.

Senior Manager, Enterprise Risk Analytics

March 2019 - June 2022

Northstar Property & Casualty

Des Moines, IA

Led **enterprise risk** analytics connecting capital projections with underwriting plans, catastrophe exposure, reserves, assets, reinsurance, and profitability reviews. Coordinated **model validation** and ORSA support.

- Linked capital projections with underwriting, reserves, assets, and **reinsurance** plans.
- Built **R** and Python simulations for dependency testing and tail stability.
- Integrated Verisk/AIR and Moody's RMS outputs into loss distributions.
- Allocated diversified capital across products and states for profitability reviews.
- Evaluated asset mixes under market and **credit risk scenarios**.

Actuarial Manager, Capital and Reinsurance

August 2015 - February 2019

Prairie Shield Insurance

Omaha, NE

Managed P&C capital and reinsurance analytics, with ownership of treaty modeling, business segment risk measurement, catastrophe uncertainty, and analyst development.

- Built stochastic treaty models for quota share and catastrophe structures.
- Automated Python **sensitivity** analysis with repeatable data checks.
- Evaluated VaR, TVaR, **diversification**, and **capital attribution** by segment.
- Incorporated catastrophe event losses and uncertainty into capital analysis.
- Mentored analysts on simulation, documentation, and assumption challenge.

Senior Actuarial Analyst

June 2012 - July 2015

Summit Harbor Casualty

Indianapolis, IN

Developed **actuarial** risk distributions and capital analysis for personal auto and homeowners portfolios. Supported data reconciliation, reinsurance evaluation, product decisions, and technical communication.

- Developed reserve and underwriting distributions for **personal lines** portfolios.
- Implemented **probability distributions** and Monte Carlo simulations in R.
- Reconciled exposure, premium, claims, and reserve datasets before model runs.
- Analyzed catastrophe concentration and reinsurance recoveries across scenarios.
- Prepared **capital attribution** exhibits supporting product decisions.

PROJECTS

Enterprise Capital Allocation Framework 📅 2024

Built a reproducible framework for diversified, marginal, and incremental capital across products and states. Connected risk adjusted profitability, RORAC, capital intensity, and target combined ratios for strategic planning.

Independent ReMetrica Reproduction 📅 2023

Recreated core ReMetrica calculations in Python to support technical challenge, reconciliation, sensitivity analysis, and clearer distinction between internal analysis and official annual results.

LEADERSHIP & AWARDS

- Fellow of the Casualty Actuarial Society, earned 2018, recognizing advanced P&C actuarial expertise.
- Board and Executive Risk Reporting Leadership, presented capital adequacy and stress testing conclusions.
- Model Governance Leadership, established controlled development and validation practices across capital analytics.

EDUCATION

Bachelor's Degree in Actuarial Science

2012

Ball State University GPA: 0

Muncie, IN

Coursework: Probability theory, actuarial modeling, statistics, risk management

CERTIFICATIONS

- Fellow of the Casualty Actuarial Society 📅 2018
- Casualty Actuarial Society Fellowship Credential 📅 2018

TECHNICAL SKILLS

- **Capital Modeling:** ReMetrica, Monte Carlo simulation, stochastic models
- **Quantitative Programming:** Python, R, probability distributions
- **Risk Measures:** VaR, TVaR, tail risk
- **P&C Risk:** Underwriting risk, reserve risk, loss distributions
- **Catastrophe Analytics:** Verisk/AIR, Moody's RMS, catastrophe exposure
- **Reinsurance Analytics:** Treaty modeling, quota share, attachment points
- **Capital Allocation:** Marginal capital, incremental capital, RORAC
- **Model Governance:** Model validation, model risk management, remediation
- **Development Controls:** Git, version control, regression testing
- **Regulatory Capital:** NAIC RBC, AM Best BCAR, statutory accounting
- **Risk Governance:** ORSA, stress testing, scenario analysis
- **Financial Risk:** Market risk, credit risk, investment risk

SKILLS

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|-----------------------------|----------------------|------------------------|-------------------------|
| • Economic capital modeling | • Tail risk | • Reinsurance modeling | • P&C underwriting risk |
| • ReMetrica | • Capital allocation | • Catastrophe modeling | • Python |
| • Monte Carlo simulation | • Marginal capital | • Model validation | • R |
| • Value at Risk | • RORAC | • Enterprise risk | |

PROFESSIONAL AFFILIATIONS

- Casualty Actuarial Society, Fellow member supporting professional P&C actuarial practice.
- Enterprise Risk Management and Actuarial working groups, connecting capital analysis with business decisions.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST