

Greyson Arellano

Capital Modeling Lead, P&C Insurance

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STRENGTHS

- 🔍 **Independent Challenge**
Rebuilt ReMetrica calculations in Python, then reconciled results until executives gained confidence in internal analysis.
- 🗨️ **Risk Storytelling**
Presented tail risk and capital adequacy findings in plain language, helping senior leaders act on difficult scenarios.
- ♥️ **Reinsurance Analysis**
Compared treaty structures, attachment points, and limits; practical scenario work clarified capital relief and cost tradeoffs.
- ⚙️ **Process Control**
Git workflows, automated checks, and regression testing made model changes easier to review and production decisions safer.
- 👥 **Cross Functional Partnership**
Worked with ERM, Actuarial, Investments, Product, and FP&A teams; peers sought support on complex capital questions.

SKILLS

Economic capital modeling

ReMetrica Monte Carlo simulation

Value at Risk Tail risk

Capital allocation Marginal capital

RORAC Reinsurance modeling

Catastrophe modeling

Model validation Enterprise risk

P&C underwriting risk Python R

LANGUAGES

English Native

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

Granite Peak Assurance 📅 July 2022 - Present 📍 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

Northstar Property & Casualty 📅 March 2019 - June 2022 📍 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

Prairie Shield Insurance 📅 August 2015 - February 2019 📍 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

Summit Harbor Casualty 📅 June 2012 - July 2015 📍 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.

MY CAREER



- Director, Economic Capital Modeling at Granite Peak Assurance (4.2 Years)
- Senior Manager, Enterprise Risk Analytics at Northstar Property & Casualty (3.2 Years)
- Actuarial Manager, Capital and Reinsurance at Prairie Shield Insurance (3.5 Years)
- Senior Actuarial Analyst at Summit Harbor Casualty (3.1 Years)

- 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

Ball State University 🎓 GPA: 0 📅 2012 📍 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

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.

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST