**Focus Areas:** Actuarial Science, Insurance Economics, Financial Risk Management

* Enhancing Claim Frequency/Severity Models with Alternative Data
* The Consumer Impact of Telematics and Usage-Based Insurance
* Impact of Macroeconomic Conditions and Cycles on Insurance Loss Ratios
* Social Inflation and Its Effects on Claim Severity and Loss Cost for P&C Firms
* Quantifying Dependency Structures in P&C Insurance Portfolios
* Extreme Value Theory for Quantifying Tail Risk in Cyber Insurance
* Examining Tail Dependency Between Financial Market Shocks and Insurance Losses
* Optimal Reinsurance Structures Using Machine Learning
* Supplementing Loss Reserving Models with Topological Data Analysis
* Quantile Regression Methods for Stochastic Loss Reserving
* Impacts of the Interest Rate Environment on Loss Reserving Strategy
* Applying Hierarchical Bayesian Credibility in Multi-Line Insurance Pricing
* The Impact of Capital Injections on Probability of Ruin
* Synthetic Data Generation Techniques for Insurance Lead Scoring Models
* The Impact of AI/NLP on Underwriting Efficiency
* The Use of XAI Techniques for Regulated Insurance Modeling
* Exploring the Behavioral Economics of Insurance Fraud
* Capital Allocation and Risk Management with RL
* The Role of IoT Devices in Loss Mitigation for Property Claims
* Loss Mitigation Strategies for Cyber Insurance
* Adoption of Parametric Insurance in the Agricultural Sector

**Insurance Economics**

* Market Concentration and Competition in the Specialty Insurance Space
* The Effect of Regulatory Changes on P&C Pricing and Innovation
* Adverse Selection in P2P Insurance Platforms
* The Impact of Telematics on Reducing Asymmetric Information in Auto Insurance
* The Efficiency of P&C Insurance Markets
* Catastrophe Risk Sharing by Homeowners via Public-Private Partnerships
* Impact of Neighborhood Crime on Property Insurance Pricing and Outcomes
* Market Power and Its Impact on Price Setting and Profit Margins
* Demand Model Development for P&C Insurance
* The Drivers of Hard and Soft Market Cycles in P&C Insurance
* The Relationship Between Political Regimes and Insurance Market Hardness
* Relationships Between Political Donations and Insurance Company Performance
* Price Elasticity of Demand for Various P&C Products
* Income Elasticity of Demand for Life Insurance
* Understanding Connectivity of the P&C Insurance Market
* Stress Testing for Cyber Insurance: Considering Systemic Cyber Attacks on Insurer Portfolios
* Modern Portfolio Theory for LOB Composition Optimization
* The Role of ESG in Insurance Investment Portfolios
* RTO Mandates and Alignment with ESG Initiatives
* The Influence of Rising Interest Rates on Life Insurance Outcomes
* Interest Rate Sensitivity in P&C Insurance Reserves
* Index-Linked Insurance Products as a Hedge Against Inflation
* Price Discovery in the Insurance Market
* Examining Bubbles In Insurance Asset Pricing
* The Causal Impact of Telematics on Driving Behavior and Auto Claims Using DiD
* The Relationship Between Economic Freedom and Social Inflation at the State-Level
* Economies of Scale and Scope in P&C Insurance Production
* The Role of Insurance-Linked Securities in Credit Risk Transfer
* The Impact of Credit Default Swaps (CDS) on Insurer Solvency
* Model Validation Techniques for Claim Frequency and Severity Models
* Spatial Dependence Modeling in Auto Insurance Claims
* LLM-Driven Model Validation for Financial Risk Applications

**Financial Risk Management**

* Industry-Specific PD Models for Credit Risk Assessment of Insurers
* Estimating EAD in Mortgage Insurance via Stochastic Modeling
* Using VaR and cVaR to Assess the Impact of Market Volatility on Insurer Solvency
* Systemic Risk and Its Impact on P&C Investment Portfolios
* The Role of Systemic Risk in Technological Innovation at Insurance Firms
* The Impact of Data Breaches on Reputational Risk of Insurance Firms
* Impact of Social Media Sentiment on Insurance Firm Valuation and Market Performance
* Volatility Spillovers in the P&C Markets Between Various LOBs
* Volatility Clustering at P&C Insurance Firms
* TDA for Fraud Detection in Insurance Claims with Persistent Homology
* Analyzing Market Dynamics and Systemic Risk in Insurance Portfolios with Topological Networks
* Combinatorial Optimization for Minimizing Risk and Maximizing Profit in Reinsurance Contracts
* Understanding Claims Triangles and Development with Functional Data Analysis
* Macroeconomic Dimensionality Reduction through PCA and Nonlinear Approaches
* Analyzing the Long-Run Relationship Between Interest Rates and P&C Premiums Using VECM