

# GARY C. WANG, FCAS, MAAA, CSPA

Senior Consulting Actuary | Bloomington, Illinois



Gary re-joined Pinnacle in 2022 after two years with a large consulting firm. Prior to first joining Pinnacle, Gary was a pricing actuary for three of the top 10 insurance companies. His experience includes standard homeowners rate indications, commercial auto rate indications, and reinsurance treaty pricing for personal and commercial lines. He also has experience in reserving analyses for commercial auto and market trend analyses for commercial auto and workers' compensation.

Gary has worked extensively on the application of advanced statistical modeling techniques to the insurance process. His experience in predictive analytics applications include rating and underwriting plan design, homeowners by peril analyses, auto vehicle characteristics analyses and scorecard development, and territory boundary development. Gary has made numerous presentations on topics relating to analytics and its application to insurance.

Gary has assisted companies in the design and implementation of rating plans and underwriting scorecards, assisted clients with incorporating data sources into classification plans, and enhanced territory classification utilizing advanced analytical methodologies for client companies.

He has also designed custom vehicle classification scorecards, designed and maintained inspections prioritization scorecards, and peer-reviewed and advised companies on their analytics processes.

Gary's current focus is on the analysis of unfair discrimination and bias in rating and the interpretation and significance of the various tests and metrics associated with the fairness tests. He has presented numerous times on this topic to both actuarial and non-actuarial audiences.

★ Qualified to sign statements of actuarial opinion per the American Academy of Actuaries (AAA)

## YEARS OF EXPERIENCE

25

## AREAS OF FOCUS

Predictive Analytics, Personal Lines, Pricing Development, Claims Analytics, Data Management

## EDUCATION

University of Illinois, 1993  
B.S. Mathematics

Northern Illinois University  
Graduate-level course work in mathematics, 1996 – 1999  
M.S. Mathematics Education, 1996

## CERTIFICATIONS

Casualty Actuarial Society (CAS), Fellow, 2004

AAA, Member, 2003

The CAS Institute, Certified Specialist in Predictive Analytics (CSPA), 2017

SAS® Certified Predictive Modeler Using SAS® Enterprise Miner™ 13

## CURRENT VOLUNTEERISM

CAS Ratemaking, Product and Modeling (RPM) Seminar Planning Committee, 2009 – Present

Race and Insurance Research Phase 2 Task Force, 2023 – Present

## THOUGHT LEADERSHIP HIGHLIGHTS

"Bias and Insurance: Emerging Regulation Worldwide and Potential Unintended Impacts of Regulatory Restriction," Casualty Loss Reserve Seminar (CLRS), September 2024

"Identifying and Mitigating Bias: The Actuary's Role," 2024 International Association of Black Actuaries (IABA) Annual Meeting, August 2024

"Fairness and Risk Based Pricing," Farm Bureau Actuarial Conference, July 2024

"99 Problems but Bias Ain't One??" CAS RPM Seminar, March 2024; CAS Webinar, July 2024

"Potential Unintended Impacts of Bias Mitigation on Other Protected Class Dimensions: A Preview of New CAS Research," CAS Seminar on Reinsurance, June 2024

"Bias Testing Implementation" Workshops, CAS Spring Meeting, May 2024

## PROFESSIONAL PUBLICATIONS

“Predictive Data Modeling Part II: An Illustrated Guide to The Mathematics of Bayesian Improved First Name Surname Geocoding (BIFSG),” Pinnacle Blog, January 19, 2024

“Predictive Data Modeling: Understanding the Value and Limitations of Imputing Race and Ethnicity,” Pinnacle Blog, October 17, 2023

## PROFESSIONAL PRESENTATIONS

“Fairness and Risk Based Pricing,” Central States Actuarial Forum (CSAF) 2024 Annual Meeting, September 2024

“Bias and Insurance: Emerging Regulation Worldwide and Potential Unintended Impacts of Regulatory Restriction,” CLRS, September 2024

“Identifying and Mitigating Bias: The Actuary’s Role,” 2024 IABA Annual Meeting, August 2024

“99 Problems but Bias Ain’t One??” CAS RPM Seminar, March 2024; CAS Webinar, July 2024

“Fairness and Risk Based Pricing,” Farm Bureau Actuarial Conference, July 2024

“Potential Unintended Impacts of Bias Mitigation on Other Protected Class Dimensions: A Preview of New CAS Research,” CAS Seminar on Reinsurance, June 2024

“Bias Testing Implementation” Workshops, CAS Spring Meeting, May 2024

“Bias and Insurance: A Preview of CAS Phase 2 Race and Insurance Pricing Research,” CAS RPM Seminar, March 2024

“Stepping into the Actuarial Modeling Wonderland,” CAS RPM Seminar, March 2024

“Fairness in Insurance: On BIFSG and Categorizing Sources of Bias,” Casualty Actuaries of New England (CANE) Spring Meeting; Midwestern Actuarial Forum (MAF) Spring Meeting, March 2024

“2024 Update to the Fairness in Insurance Discussion,” Pinnacle APEX Webinar, February 2024

“Bias in Insurance – A Regulatory and Legislative Update,” Financial Reporting (FINREP) Forum Florida, October 2023

“Fairness and Insurance Pricing,” Insurance Accounting and Systems Association (IASA) Texas Chapter: Everything’s Bigger in Texas Conference, October 2023

“ChatGPT: The Actuarial Perspective,” Pinnacle APEX Webinar, September 2023

“Bias Discussion 2.0: Fairness in Insurance Modeling,” Casualty Actuaries of the Southeast (CASE) Fall 2023 Meeting, September 2023

“Use of Road Context Data in Auto Rating,” National Association of Mutual Insurance Companies (NAMIC) Webinar, August 2023

“Bias Discussion 2.0, Moving from Theory to Practice,” Farm Bureau Actuarial Conference, July 2023

“Introduction to Accurate GLM,” CAS Spring Meeting, May 2023

“Bias Discussion 2.0: Fairness in Insurance Modeling,” CAS RPM Seminar, March 2023

“Building GBM Using R Workshop,” CAS RPM Seminar, March 2023

“An Introduction and Update to the Fairness in Insurance Discussion,” Pinnacle APEX Webinar, February 2023

“Bias in Insurance and Legislative Impacts,” FINREP Forum Texas, November 2022

“Introduction to Accurate GLM,” CAS International Webinar; CAS RPM Virtual Seminar, 2022

“How to Incorporate Simulated Data into Actuarial Research,” Pinnacle APEX Webinar, 2020

“Impact of Disruptive Technologies on Actuarial Projections,” IASA Indiana Chapter Meeting, 2019

“The Actuary’s Evolving Role in Today’s Dynamic Industry Landscape,” Pinnacle APEX Webinar, 2019

“Easy Tree-sy & A Walk in the Woods: An Introduction to Decision Trees and Random Forests,” Zurich Actuarial Network Meeting, 2019

“A Walk in the Woods: Random Forests for the Actuary,” The Fifth Joint Annual General Insurance and Takaful Seminar, 2018

“GLMs, Machine Learning, and More, Oh My!” CAS Annual Meeting, 2018–2019

“Technology’s Impact on Personal and Commercial Auto Insurance,” Pinnacle APEX Webinar, 2018

Introduction to R Workshop, CAS RPM Seminar, 2014 – 2018

“Point Estimation Models vs. Ranking Models,” CAS RPM Seminar, 2017

“Incorporating Predictive Analytics in Reserving: How and Why,” CAS Spring Meeting, 2016

“UBI and Data Analysis: Seeking Consumer Value Beyond Price Differentiation,” Insurance Telematics Canada, 2016

### **PAST VOLUNTEERISM**

CAS Exam Committee 2005 – 2016

### **EMPLOYMENT HISTORY**

Pinnacle Actuarial Resources, Inc. 2022 – Present

Willis Towers Watson 2020 – 2022

Pinnacle Actuarial Resources, Inc. 2005 – 2020

Scor Reinsurance Company 2003 – 2005

Kemper Insurance Companies 2000 – 2003

Allstate Insurance Company 1999 – 2000