Bridging the Gap: How AI Changed My View of Actuarial Work

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INTRODUCTION

I am not an actuary. I'm a Business Development Manager at Flatworld Solutions, a global insurance back-office service provider. For over a decade, I've worked alongside actuarial teams, underwriters, claims managers, and pricing specialists in the property and casualty space.

If you had asked me five years ago whether artificial intelligence would reshape my conversations with actuaries, I'd have laughed it off as tech hype. Yet here I am today writing about AI, not as an abstract buzzword, but as something that has changed the way I see actuarial decision-making from the frontlines of insurance operations.

This essay is a reflection from someone without an actuarial designation, but with a ringside seat to the ways AI has disrupted, challenged, and quietly improved the actuarial ecosystem.

When I first heard people say that *artificial intelligence would change everything*, I assumed it was the sort of buzz that fills conference halls but rarely seeps into daily work. In insurance operations, where I spend most of my time, the rhythms felt stubbornly the same: policy administration, claims triage, endorsements, and renewals. The actuarial teams always seemed like distant partners—people whose models influenced underwriting appetite and reserving assumptions, but who never directly touched my desk. Then, AI entered the picture. Not as a grand revolution, but as a set of tools—sometimes crude, sometimes dazzling—that reshaped the way I looked at actuarial practice from the frontlines of insurance.

A FRONT-ROW SEAT TO AI'S LEARNING CURVE

Our company began experimenting with machine-learning models to support commercial auto claims and property risk assessments. The promise was intoxicating: fewer manual errors, faster processing, and the ability to catch patterns invisible to the human eye. At first, I treated it as another automation initiative, like scanning paper files into PDFs a decade ago. But very quickly, I realized this was different.

One early experiment still makes me smile. We fed an AI system location data to help classify businesses. It returned with confidence that a sprawling warehouse complex was…a dry cleaner. Another time, it decided that "Phoenix Arms," a retirement community, was a firearms distributor. These weren't just funny mistakes; they revealed the gulf between what AI could infer and what an actuary—or even a junior underwriter—would conclude using judgment and context.

Actuaries, I noticed, didn't laugh these off the way I did. They immediately asked: *If the model is this wrong here, where else is it wrong in ways we can't see?* That was my first real appreciation of the actuarial

mindset in the AI era: a blend of curiosity and suspicion. It wasn't cynicism—it was professional responsibility.

FROM DATA VOLUME TO DATA JUDGMENT

As AI systems got better, they began to handle tasks that previously consumed actuarial analysts: loss triangle completion, reserving scenario generation, and frequency-severity trend-spotting. On the operations side, we used AI to flag claims likely to escalate. The productivity boost was real. But what impressed me most was how actuaries insisted that every new efficiency be accompanied by new forms of judgment.

One actuary I worked with explained it simply: "AI doesn't free us from thinking. It frees us from *repetitive thinking* so we can ask better questions." That distinction hit me hard. I realized AI wasn't just reshaping workflows; it was reshaping the *philosophy* of actuarial practice. The skill wasn't memorizing tables or running macros. It was interrogating an opaque model and deciding whether to trust its output in the messy, high-stakes world of insurance.

THE FIRST HARD CONVERSATION

I still remember the first time I had to explain an AI-driven decision to a skeptical client. The model had flagged a mid-sized trucking fleet as "high-risk" based on telematics patterns. The client's COO pushed back: "We just invested in safety upgrades—how can your system not see that?"

I found myself caught between technical opacity and business reality. I couldn't "open the hood" of the algorithm, but I could explain how the data feeding it might lag behind real-world changes. What surprised me most was how the actuary on the call handled it. She didn't defend the model. She reframed it: "Think of this score not as a verdict, but as a hypothesis. If your safety measures are real, then over the next quarter, the data should catch up, and the score should improve."

That moment taught me that actuarial professionalism isn't about defending tools—it's about stewarding trust. The actuary didn't need the model to be perfect; she needed the client to feel that the process was fair, transparent, and responsive. That small act of reframing did more for client confidence than any technical explanation could have.

RETHINKING TALENT AND TRAINING

Another consequence of AI's arrival was a shift in what we looked for in talent. On the operations side, we no longer prized clerks who could memorize forms or follow scripts flawlessly; we needed analysts who could question anomalies, spot data quirks, and escalate when the "machine answer" didn't make sense. Actuaries mirrored this shift. The most valuable ones weren't those who could crunch numbers fastest, but those who could explain, in plain English, why a model's strange output still made business sense—or why it should be disregarded.

I watched a younger actuary give a presentation where she compared AI models to "interns with PhDs." They're brilliant at narrow tasks but need supervision and translation before their work can be trusted. That image has stuck with me ever since. It also made me appreciate the evolving role of actuarial exams and professional development: not just building technical skill, but cultivating judgment, communication, and ethical reflexes in an AI-driven workplace.

GOVERNANCE, REGULATION, AND THE NEW FRONTLINE

AI didn't just change actuarial practice internally; it created new expectations externally. Clients, regulators, and even the public wanted assurance that automated decisions were fair and unbiased. Here again, actuaries found themselves on the frontline.

I saw this play out during discussions about model governance for a client's personal auto book. Regulators wanted transparency on how AI models flagged potential fraud. The client's executives wanted speed. The actuaries were in the middle, tasked with showing not only *what* the model did, but *how reliable and equitable* its outputs were. It struck me that actuaries were becoming interpreters between technology and accountability—a role that felt entirely new, yet entirely consistent with their professional DNA.

In fact, I came to see actuarial governance as a kind of bridge. Data scientists could explain feature weights. Regulators could cite consumer protection statutes. But actuaries had the credibility to say: "Here's what this means for solvency, for fairness, and for long-term risk." That positioning—half technical, half fiduciary—may be the profession's greatest advantage in the AI era.

Looking ahead, I can imagine actuaries playing an even more prominent role in setting standards for algorithmic accountability, much like they already do for reserves and solvency. If AI is the new engine of insurance, actuaries may well be its designated pilots.

THE HUMAN ELEMENT: SURPRISES AND LIMITS

Not everything was a triumph. Some of AI's limits only became clear when humans collided with it. One example: in claims support, our AI model flagged a batch of suspicious submissions. Upon deeper inspection, several were flagged, not because of genuine fraud risk, but because the policyholders lived in neighborhoods with unusual street-name patterns that confused the algorithm.

We had to apologize, retrain the model, and rebuild trust with clients who felt unfairly profiled. What struck me was how quickly actuaries zeroed in on the fairness issue, not just the statistical one. For them, it wasn't enough that the model "worked most of the time." If it risked systemic bias, it was unacceptable. That sense of ethical responsibility reminded me that AI may accelerate actuarial work, but it doesn't replace the profession's moral compass.

FROM OUTSIDER TO APPRECIATOR

As someone who started outside the actuarial profession, I used to see actuaries as conservative, almost rigid. AI flipped that view. What I witnessed instead was a group adapting—sometimes reluctantly, but always thoughtfully—to a technology that threatened to undercut their traditional strengths.

And yet, rather than resist, they reframed their role: not as calculators, but as explainers; not as guardians of old methods, but as guarantors of fairness in new ones. That flexibility was inspiring. It showed me that actuarial identity is less about methods and more about values: prudence, clarity, accountability. AI didn't dilute those values. It highlighted their importance.

LOOKING FORWARD: THE ACTUARY'S EXPANDING HORIZON

Where does this leave us? From my vantage point, AI is not an endpoint but a catalyst. It's pushing actuarial practice in three important directions:

1. From model building to model questioning. Actuaries of the future will spend less time running code and more time asking whether the code reflects reality fairly and reliably.

2. **From isolated expertise to interdisciplinary leadership.** As AI touches regulation, ethics, and public perception, actuaries will increasingly be the ones connecting technical outputs to human consequences.

3. **From technical guardians to trust builders.** The most valuable actuaries will not be those who can out-code data scientists, but those who can ensure that every AI-driven decision strengthens—not erodes—the credibility of insurance.

These shifts excite me. They suggest a profession not shrinking under AI's shadow but expanding into new relevance.

CONCLUSION: TRUST AS THE TRUE INNOVATION

If you had told me five years ago that I would gain a deeper appreciation for actuarial practice through AI, I would have laughed. To me, actuaries were the people behind the curtain, turning statistical wheels that the rest of us simply accepted. But AI dragged those wheels into the open. It forced us all—operations staff, clients, regulators and, yes, actuaries—to confront the uncertainty of machines and the enduring need for human judgment.

What I carry forward is this: AI is not the innovation that matters most. Trust is. And actuaries, with their long tradition of balancing numbers with prudence, are uniquely equipped to steward that trust.

In the end, AI didn't just change actuarial workflows. It changed my view of actuaries themselves. Not as guardians of the past, but as navigators of a future where algorithms may drive the engines—but human values must steer the course.

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