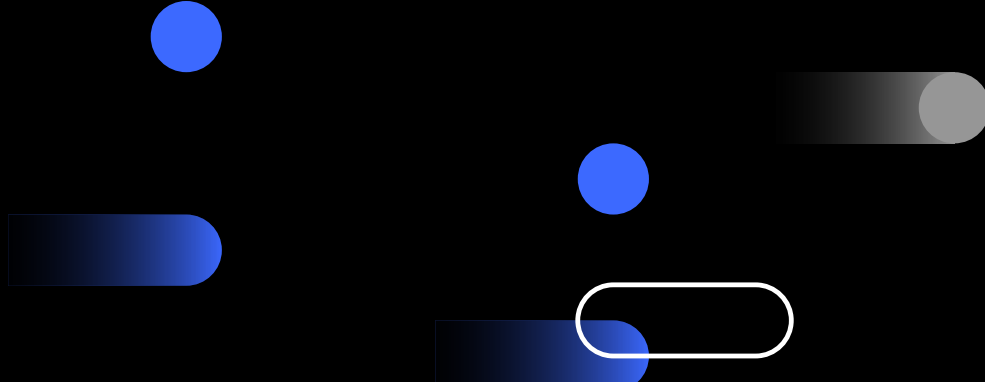


The AI-Powered Actuary: Amplifying our Value

Actuaries
Institute.

Embracing AI: Our Competitive Edge



As actuaries, we see
and shape the future.
**AI is one of the most
transformative forces
of our future,** both for our
profession and society,
offering both immense
opportunity as well as
risk – especially for those
who fail to understand it.

The pace of technological change is accelerating exponentially.

AI and advanced data science are reshaping industries at a breakneck speed, transforming how we work, make decisions and solve complex problems. Actuaries are harnessing these changes to evolve our practice, and are increasingly involved in building, running and governing responsible AI systems across a number of industries.

As businesses develop their own analytical capabilities, actuaries will need to continue leveraging the capabilities that AI has to offer to enhance our outputs, focus our unique strengths and create greater value.

66% of leaders would not hire someone without AI skills, and 77% believe early-career talent will be given greater responsibilities due to AI.

[Microsoft and LinkedIn's 2024 Work Trend Index](#)

These are more than just numbers—they're a clarion call for our profession. Just as we've taken charge in addressing critical risks like climate change, we are now at the vanguard of the AI revolution.

While the nature of our work may evolve, our core principles remain unchanged. As we continue to use new and emerging technologies, we maintain our commitment to providing valuable and trusted advice.

The Institute is committed to supporting members on this journey. Our Strategic Plan for 2025-2027 reflects our dedication to empowering actuaries with the technological skills and opportunities to thrive at every career stage. Through collaborative learning and bold implementation, we'll ensure that our profession remains at the forefront of innovation, driving value in an AI-enhanced world.

By pushing the boundaries of what's possible while championing ethical AI implementation, we are ensuring the vitality of our profession and expanding its influence in an increasingly data-driven world.

As a profession, we have a unique opportunity to drive the development of AI governance frameworks, lead cross-functional teams in integrating AI into strategic planning, and design AI systems that deliver real value.



"I look at most executive teams and I think that in two years' time, 30 per cent of the people around this table won't be sitting here anymore. It will be the 30 per cent who don't embrace AI and don't think about how they change the way they do their jobs and lead their organisations."

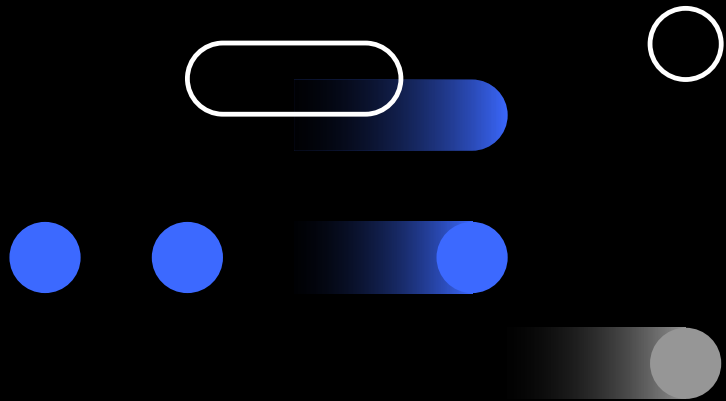
Adam Driussi

CEO Quantum



In the age of AI, actuaries are poised to thrive.

AI-Powered Actuaries



In 2024, AI is everywhere.

From recommendation engines in streaming services through to fraud detection, AI is ubiquitous, built on research that has been ongoing for over 60 years. The field has seen waves of interest; that is, until the launch of ChatGPT in November 2022.

The platform became the fastest-growing consumer application in history, reaching 100 million monthly active users in just two months, and brought generative AI to the mainstream. Now, less than two years later, generative AI has passed the second phase of Gartner's five-phase hype cycle – the "Peak of Inflated Expectations" – with [Gartner](#) projecting that by 2026, more than 80% of enterprises will have used generative AI APIs, models or applications, up from less than 5% in 2023.

Business Breakthroughs

Organisations, regulators, and governments are keenly aware of AI's transformative potential. Businesses are seeing the benefits of utilising the technology to streamline operations, boost productivity and enhance customer outcomes in several ways, including:

- **Closing the data-insight gap:** Processing large amounts of data more efficiently, providing timely insights and actionable insights to address adverse outcomes.
- **Real-time tracking and prediction:** Monitoring operations, such as supply chains and logistics, and offering real-time alerts and recommendations to boost efficiency.
- **Hyper-personalisation:** Using products and content powered by generative AI to create unique customer experiences that boost loyalty, brand affinity and service optimisation.
- **Operational co-pilots:** Leveraging generative AI to provide operational staff (e.g. contact centres, insurance claims teams, case managers, etc.) with the insights they need to complete tasks and serve customers faster and more efficiently.
- **Virtual advisors:** Using generative AI tools for decision-makers suggestions, alternative scenarios and solutions, reducing cognitive load.
- **Coding assistants and autonomous agents:** Decreasing “time to market” as coding assistants make software development more efficient, and autonomous agents are used to execute a growing number of routine tasks.
- **Risk management:** Predicting potential risks via AI models by creating simulations of rare high-impact events and monitoring brand reputation in [real-time](#).

With these use cases and many more, [McKinsey](#) estimates that generative AI could add the equivalent of US \$2.6 - US\$4.4 trillion annually to the global economy, and corporations and government are racing to develop, deploy and integrate AI.



Redefining Actuarial Value

AI is fundamentally changing how actuaries work and the value we bring to organisations across core and emerging domains. Key examples of where actuaries are playing an influential role in AI-led transformation include:

- Data science actuaries are valuable members of AI and Data Science teams, developing cutting-edge solutions that deliver significant business value.
- Actuaries are uniquely qualified for senior leadership of data science teams and / or larger transformation projects due to our analytical depth and holistic focus on systems, risk and business value.
- Actuaries are well-suited for involvement in AI governance and strategy within organisations given the actuarial focus on professional standards, ethical practice and deep understanding of analytical techniques, and how these come together within complex systems.
- Actuaries in executive leadership guide AI integration and provide critical insights as non-executive directors.



"Actuaries make a real impact by driving effective AI transformation. We translate complex data into actionable insights. We help decision-makers understand the implications for customers and society. We light the way forward, so organisations can navigate the AI-enhanced future with confidence."

Jon Shen

Data Science and AI Practice
Committee and Institute Council
Member

Driving Innovation

Actuaries have a proud history in data analytics and this legacy continues with one-third of our members specialising in data science, showcasing our profession's natural progression into the AI-driven landscape.

AI isn't merely automating routine tasks, it's revolutionising our core actuarial functions and opening new avenues for our expertise.

As we embrace these expanded roles and enhanced core capabilities, actuaries are poised to drive innovation and create unprecedented value across an ever-widening spectrum of industries.

The Next Horizon

Looking to the future, the essence of actuarial work remains unchanged – it's about delivering value, not wielding tools. AI, like the technological advancements before it, allows us to grow our influence and further leverage our unique expertise.

Pioneering actuaries have shown we will continue to be valued not for our technical skills alone, but for our ability to see the big picture, balance stakeholder needs, and drive sustainable innovation at the board level. In this AI-augmented world, our role continues to be that of strategic visionaries, ensuring that data-driven decisions align with long-term business goals and societal needs.

Powering Your Professional Evolution



The Institute is committed to equipping all members with the tools, knowledge and pathways to **thrive in an AI-driven world.**

Our comprehensive approach spans education, lifelong learning and community engagement. Whether you're in the early stages of your career or a seasoned professional, the Institute is dedicated to fuelling your curiosity and engagement with AI advancements.

The Institute's Data Science and AI Practice Committee and Young Data and AI Working Group (YDAWG), comprised of industry leaders and experts at the cutting edge of AI innovation, inform and inspire our comprehensive AI resources. These passionate professionals, with their deep knowledge of the latest AI tools and applications, help shape our events, syllabi and public policy initiatives to ensure actuaries stay at the forefront of technological advancement.

Future-focused Education

Our qualification pathway prepares the next generation of actuaries for the AI revolution. The Actuary Program includes the compulsory Data Science Principles subject, bridging modern analytical techniques with real-world applications, and the Fellowship Program offers Data Science Applications; our most popular elective chosen by over 60% of students.

[Data Science Applications](#) is available as a standalone microcredential, open to all members regardless of their career stage. This advanced subject covers cutting-edge techniques like neural networks and natural language processing, allowing you to quickly upskill in key AI competencies.

All students within our education program also complete the Communication, Modelling and Professionalism subject, ensuring ethical and effective AI model design and communication.

A Vibrant and Connected Community

We foster a dynamic ecosystem where AI-enthusiasts can thrive and grow together:

- The Data Science and AI Practice Committee and YDAWG drive engagement and innovation within our profession.
- We connect members with global peers through the [International Actuarial Association's AI Taskforce](#).
- We partner with external organisations enable exciting events like fireside chats and presentations with AI business leaders, as well as our [Women Leaders in Data Science/AI Scholarship](#) with Chief Executive Women.
- From the world-class AI Con to monthly Sydney AI + Data Science meet-ups, our events provide a platform for knowledge sharing and networking, with discussions ranging from practical AI use cases to building stakeholder trust.



“We recognise the enormous opportunities AI presents us as individuals and as a profession. But we can’t just rely on what we have already learnt. To seize these opportunities and remain valued, we need to become adaptable on a scale we’ve never experienced. We need to be lifelong learners who continually upskill and adapt as AI capabilities and techniques continue to evolve.

The Practice Committee and the Institute will support this exciting journey.”

Craig Price

Chair, Data Science and AI Practice Committee

Leading Ethical AI and Shaping Policy

We're at the forefront of developing ethical standards, regulatory frameworks, and best practices:

- contributing to government inquiries on AI adoption, responsible AI, and data privacy;
- partnering with organisations like the [Australian Human Rights Commission](#) to shape the future of AI governance;
- providing guidance on algorithm governance and building stakeholder trust in AI solutions, including the [Technical Paper on Automated Decision-Making Systems](#), and setting high standards for the use of technology through our Professional [Guidance](#) and [Code of Conduct](#); and
- releasing thought leadership on key related topics such as [Big Data and the Digital Economy](#) and [Modern Government Service Delivery](#), and regular articles on AI in Actuaries Digital.

Lifelong Learning for the AI Era

Stay at the cutting edge with our continuously updated resources:

- Our AI and Data Science Learning Resource offers exciting, practical content curated by industry leaders. Dive into hands-on coding workshops, explore the latest in generative AI and discover how AI is reshaping industries from insurance to customer experience and beyond.
- Learn from global thought leaders at the annual All Actuaries Summit and local talent at our regular Insight Sessions and workshops. These events share the latest AI trends and applications including algorithm governance, machine learning interpretations and using AI to improve consumer and corporate outcomes.
- Our Data Science and AI Newsletter keeps you updated on global developments and local innovations, curated by our expert committees.



Seize Your AI Future

Our profession has transformed and we are actively shaping its future.

The AI revolution isn't just a technological shift; it has redefined and exponentially expanded the role of the actuary as strategic partners, data ethicists and AI innovators. This evolution has grown our influence across industries and can open up unprecedented opportunities for impact.

From banking to retail, customer loyalty to insurance and wealth management, AI is revolutionising how we analyse data, assess risk, and drive strategic decisions. These changes are not peripheral – they're at the core of how we enable organisations to realise value.

Our expertise in big-picture thinking, modelling, managing uncertainty and ability to communicate complex concepts make us invaluable partners in realising the full potential of these technologies. From optimising operational efficiencies and improving business models to addressing pressing societal challenges, actuaries are key to unlocking both the business and social value of AI.

Let's seize this moment to drive a sustainable future for AI in business and society.

The AI-enhanced actuary is here, ready to tackle the complex challenges of our time and create new possibilities for businesses, governments, and society at large. Join us on this journey to shape a better tomorrow.

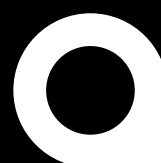


Institute of Actuaries of Australia
ABN 69 000 423 656

Level 2, 50 Carrington Street
Sydney NSW Australia 2000

t +61 (0) 2 9239 6100
e actuaries@actuaries.asn.au
w www.actuaries.asn.au

© Institute of Actuaries of Australia 2024. All rights reserved.



**Actuaries
Institute.**