AI IMPACT REPORT NO. 3 · REVISED 5 OCTOBER 2026 · 250 ROLES COVERED

Insurance Underwriters

AI significantly automating risk assessment and decision-making.

EXPOSURE	WINDOW	ADOPTION TODAY	READING
57	2–6 yrs	High	The role is being reshaped.
Elevated exposure	until change lands		Exposure is the share of today's work AI can plausibly take on within the window.

§ 01 WHAT IS HAPPENING

What is happening to insurance underwriters

Impact

AI algorithms are rapidly taking over routine data analysis, risk classification, and even initial decision-making for standard insurance policies. The underwriter's role is shifting towards managing complex cases, model oversight, and portfolio strategy.

Risk

High role transformation; focus on complex risks & AI oversight.

AI is automating a large portion of traditional underwriting tasks, especially for standardized products. Human underwriters will increasingly focus on complex, unique, or high-value risks, validating AI model outputs, managing portfolio risk, and developing new underwriting guidelines in an AI-driven environment.

Sector readiness

Rapidly Transforming & Integrating

The insurance industry is a leader in AI adoption for core processes. Underwriting is being heavily reshaped by predictive analytics, machine learning, and automated decision engines.

§ 02 POSITION

Where you stand

i The role of the Insurance Underwriter is undergoing one of the most significant AI-driven transformations among professional roles.

ii A large portion of routine data processing and risk assessment for standard policies is being automated, leading to a potential reduction in the number of traditional underwriting roles focused on these tasks.

iii The future underwriter will be an AI-augmented expert, focusing on complex risks, model validation, portfolio strategy, and ensuring ethical/compliant AI use. Strong analytical and critical thinking skills, combined with deep domain expertise, will be essential.

§ 03 ACTIONS 15 POINTS

What this means for you

Concrete changes to how the work gets done, in the order you are likely to meet them.

01 **Automated Risk Assessment for Standard Policies.** AI will handle the data gathering and risk assessment for many standard insurance applications (e.g., personal auto, home, some small commercial), often providing instant quotes.

02 **Focus on Complex & Niche Risks.** Your expertise will be increasingly directed towards underwriting complex, large, or unusual risks that fall outside the parameters of standard AI models or require nuanced judgment.

03 **AI Model Interpretation & Oversight.** A key role will be understanding how AI underwriting models work, interpreting their outputs, identifying potential biases, and knowing when to override AI-driven decisions.

04 **Portfolio Management & Strategy.** More time will be spent analyzing the overall risk portfolio, identifying trends, and contributing to underwriting strategy and guideline development.

05 **Collaboration with Data Scientists & AI Teams.** You will likely work more closely with data scientists and AI specialists to refine underwriting models, provide domain expertise, and ensure models align with business objectives.

06 **Enhanced Fraud Detection.** AI tools will assist in identifying potentially fraudulent applications or claims with greater accuracy, requiring underwriters to investigate flagged cases.

07 **Dynamic & Personalized Underwriting.** AI enables the use of more diverse data sources (e.g., telematics, IoT, behavioral data where permissible) to create more dynamic and personalized risk assessments and pricing.

08 **Development of New Insurance Products.** Leveraging AI insights to help design and underwrite new, innovative insurance products tailored to emerging risks or specific customer segments.

09 **Regulatory Compliance & Ethical AI Use.** Ensuring that AI-driven underwriting processes comply with regulations and are applied ethically, avoiding unfair discrimination or biases.

10 **Increased Efficiency & Faster Turnaround.** AI will speed up the underwriting process for many policies, allowing for quicker decisions and improved customer experience.

11 **Skill Shift Towards Analytical & Strategic Skills.** Less emphasis on manual data review and more on analytical skills, strategic thinking, problem-solving, and communication.

12 **Managing "Edge Cases" and Exceptions.** Dealing with applications or scenarios that AI models struggle with or for which they provide low-confidence outputs.

13 **Continuous Learning of AI and Data Techniques.** The AI landscape in insurance is evolving rapidly, requiring ongoing learning to stay current.

14 **Potential for Role Specialization.** Underwriters might specialize in areas like AI model auditing, complex risk advisory, or specific niche markets that require deep human expertise.

15 **Augmented Decision Support.** AI will act as a powerful decision support tool, providing underwriters with rich data and risk scores, but final complex decisions often still require human judgment.

§ 04 CAUSES 10 DRIVERS

What is pushing this change

01 **Availability of Vast Customer & Risk Data.** AI thrives on data, and the insurance industry has access to extensive historical and increasingly real-time data for risk modeling.

02 **Advancements in Machine Learning & Predictive Analytics.** Sophisticated algorithms can identify complex patterns and predict risk more accurately than traditional actuarial tables alone.

03 **Demand for Faster Quoting & Policy Issuance.** Customers expect quick turnarounds; AI can automate much of the data gathering and assessment for instant decisioning on many policies.

04 **Competitive Pressures in the Insurance Market.** Insurers are adopting AI to gain a competitive edge in pricing accuracy, operational efficiency, and customer experience.

05 **Rise of Insurtech & AI-Native Competitors.** New, tech-savvy companies are entering the market with AI-first underwriting models, pushing established players to adapt.

06 **Need for More Granular & Personalized Risk Pricing.** AI allows for the analysis of more data points to tailor premiums more closely to individual risk profiles.

07 **Increased Computational Power.** Enables the training and deployment of complex machine learning models that were previously too resource-intensive.

08 **Improved Fraud Detection Capabilities.** AI can identify subtle patterns indicative of fraudulent applications or claims, improving loss ratios.

09 **Regulatory Push for Data-Driven Decision Making (with caveats).** While regulations also focus on fairness, there's an implicit drive to use available data for more accurate risk assessment.

10 **Desire to Reduce Manual Underwriting Costs.** Automating parts of the underwriting process can significantly reduce the labor costs associated with manual review.

§ 05 VARIATION 5 SECTORS

Impact by sector

The headline figure is an average. Where you work changes the picture.

Personal Lines Underwriters (Auto, Home)	High degree of automation for standard risks due to large volumes of relatively homogenous data. Focus shifts to exception handling and complex cases.
Commercial Lines Underwriters (SME & Large Corporate)	AI augments analysis for SME, but large corporate underwriting retains a significant human judgment component for complex, unique risks and relationship management.
Specialty Lines Underwriters (e.g., Marine, Aviation, Cyber)	AI can assist with data analysis, but deep domain expertise and human judgment remain critical due to the unique and often data-scarce nature of these risks.
Life & Health Underwriters	AI used for analyzing medical data (with consent), lifestyle factors for risk stratification, and automating simpler applications. Complex medical histories require human review.
Reinsurance Underwriters	AI for modeling catastrophic risks, portfolio analysis, and assessing complex, large-scale risks from primary insurers.

§ 06 PREPARATION 8 SKILLS

Skills to build

The skills that keep the human part of this work valuable as the routine part is automated.

01 **Data Analysis & Interpretation.** Ability to understand and interpret data-driven insights from AI models, identify anomalies, and question assumptions.

02 **AI Model Understanding & Validation.** Understanding the principles behind AI underwriting models, their limitations, potential biases, and how to validate their outputs.

03 **Risk Assessment & Critical Judgment (for complex cases).** Applying deep underwriting expertise and judgment to complex, non-standard risks where AI models may lack data or nuance.

04 **Communication & Negotiation Skills.** Effectively communicating underwriting decisions and rationale to brokers, agents, and internal stakeholders.

05 **Business Acumen & Industry Knowledge.** Understanding the insurer's business strategy, market positioning, and profitability goals to make sound underwriting decisions.

06 **Ethical AI & Regulatory Awareness.** Ensuring AI-driven underwriting is fair, transparent, compliant with regulations, and avoids discriminatory outcomes.

07 **Adaptability & Continuous Learning.** Willingness to learn new AI tools, adapt to evolving underwriting processes, and stay updated on technological advancements.

08 **Portfolio Management & Strategic Thinking.** Analyzing the overall risk profile of the underwritten portfolio, identifying concentration risks, and aligning underwriting with strategic objectives.

§ 07 INSTRUMENTS 11 ENTRIES

Tools in use

KINDS OF TOOL WORTH KNOWING

01 **AI-Powered Underwriting Workbenches/Platforms.** Integrated software solutions that use AI to automate data ingestion, risk scoring, decisioning for standard cases, and provide insights for complex ones.

02 **Predictive Analytics & Machine Learning Tools.** Software (e.g., Python, R, specialized platforms) used to build, train, and deploy machine learning models for risk assessment and pricing.

03 **Data Aggregation & Augmentation Services.** Services that provide access to and help integrate diverse external data sources (e.g., property data, business data, telematics) for underwriting.

04 **Natural Language Processing (NLP) Tools.** Used to extract relevant information from unstructured data sources like application forms, medical reports (with consent), or claims notes.

05 **Business Process Management (BPM) with AI.** Systems that use AI to streamline and automate underwriting workflows, manage caseloads, and track key performance indicators.

06 **Geospatial & Catastrophe Modeling Tools (with AI).** Platforms incorporating AI to analyze geographical risks, climate change impacts, and model potential losses from catastrophic events.

NAMED TOOLS ALREADY IN USE

Zesty.ai (for property risk) VISIT

An AI platform that uses computer vision and other data sources to provide detailed property risk assessments for homeowners and commercial property insurance.

Shift Technology (for fraud detection & claims automation) VISIT

While primarily claims-focused, its AI-driven fraud detection capabilities feed back into understanding risk and can inform underwriting stringency.

Cytora (AI-powered commercial underwriting) VISIT

A platform that uses AI to digitize risk, enabling commercial insurers to underwrite more accurately and efficiently.

Guidewire Underwriting Management / Duck Creek Policy VISIT

Major insurance platform providers are increasingly embedding AI and machine learning capabilities into their core policy administration and underwriting modules.

Internal Proprietary AI Models

Many large insurance companies have dedicated data science teams building and deploying their own custom AI models for underwriting specific lines of business.

§ 08 EXAMPLES 5 EXAMPLES

In practice

Ways people in this role are already using AI, and what they get from it.

Automate Data Intake & Initial Scoring with AI

EXAMPLE 1

HOW Implement AI tools that automatically extract data from application forms and third-party sources to generate an initial risk score for standard policies.

GAIN Significantly speeds up the application process, reduces manual data entry, and allows underwriters to focus on more complex assessments.

Leverage AI for Predictive Risk Modeling

EXAMPLE 2

HOW Use machine learning models to analyze historical claims data, customer demographics, and external risk factors to predict future loss probabilities with greater accuracy.

GAIN Improves pricing accuracy, enables more granular risk segmentation, and can lead to better loss ratios.

Utilize AI for Portfolio Risk Analysis

EXAMPLE 3

HOW Employ AI analytics to monitor the overall risk exposure of your underwriting portfolio, identify concentrations of risk, and assess alignment with strategic goals.

GAIN Provides a clearer understanding of portfolio performance, helps in adjusting underwriting guidelines, and supports strategic decision-making.

Augment Fraud Detection in Applications EXAMPLE 4	HOW	Use AI systems trained to identify patterns indicative of misrepresentation or potential fraud in insurance applications before a policy is bound.
	GAIN	Reduces potential losses from fraudulent applications and improves the overall quality of the underwritten book of business.
Oversee & Validate AI Underwriting Decisions EXAMPLE 5	HOW	Regularly review the decisions made by AI underwriting engines, understand their logic, identify any biases, and handle exceptions or appeals for complex cases.
	GAIN	Ensures accountability, fairness, and compliance in AI-driven underwriting, and maintains human oversight for critical or nuanced decisions.

§ 09 CONTEXT

How this role compares

Three neighbouring roles chosen to show the direction of travel.

Insurance Claims Processor (Basic Claims) MORE EXPOSED	AI IMPACT	Very High (AI can automate intake, initial assessment, and payment for simple, standardized claims)
	WORK MOVES TO	Shift to handling complex claims, customer interaction for exceptions, and fraud investigation.
Data Scientist (Insurance Focused) DIFFERENT SKILLS, GROWING	AI IMPACT	Foundational (They build and maintain the AI underwriting and pricing models)
	WORK MOVES TO	Deep expertise in machine learning, statistics, programming, and insurance domain knowledge.
Insurance Broker/Agent (Complex Commercial Lines) COMPLEMENTARY, LESS EXPOSED	AI IMPACT	Moderate Augmentation (AI for market research, product comparison), but core value is in client consultation, needs analysis, and relationship management.
	WORK MOVES TO	Advisory skills, understanding complex client needs, negotiation, and building trust.

§ 10 VERDICT

Closing judgement

> For Insurance Underwriters, AI is a powerful force of change. It automates much of the traditional data-heavy work, demanding a shift towards skills in AI model interpretation, complex risk analysis, strategic thinking, and ethical governance. Adaptability and continuous learning will be vital to thrive in this evolving landscape.

§ 11 BASIS REVISED 5 OCTOBER 2026

Evidence and revisions

What the exposure figure rests on, what changed when it was last revised, and the published work cited for this role.

SCORE

65 to 57

WINDOW

2-6 years (unchanged)

The 5 October 2026 review moved the score down by 8 points.

Exposure Index v2. Inputs: task applicability 32/100 (Microsoft AI applicability score 0.16 for Insurance underwriters); observed usage 8/100 (Anthropic observed exposure 0.06); official exposure tier 100/100 (BLS: very high); labour-market trajectory 60/100 (BLS projects employment to fall 3.8% over 2025–35); published adoption rating 70/100 (high adoption). Weighted base 49.4. Editorial adjustment +8: Straight-through decisioning models already handle a large share of simple-risk underwriting (RPA plus predictive models, not generative AI). Final score 57. The previous figure of 65 was lowered by 8 points: the earlier method kept 60% of the weight on an undocumented editorial prior and capped movement at fifteen points, so the measured evidence was only partly reflected. The change window is unchanged.

HOW THE FIGURE IS BUILT (EXPOSURE INDEX V2)

Task applicability — Microsoft Research, AI applicability score	32 × 35%	11.3
Observed usage — Anthropic Economic Index, observed exposure	8 × 20%	1.7
Official exposure tier — US BLS AI-exposure category	100 × 20%	20.0
Labour-market trajectory — US BLS projected employment change 2025–35	60 × 10%	6.0
Published adoption rating — This report's adoption level	70 × 15%	10.5
Weighted base		49.4
Editorial adjustment: Straight-through decisioning models already handle a large share of simple-risk underwriting (RPA plus predictive models, not generative AI).		+8
Exposure score		57

MEASURES BEHIND THE SCORE

US Bureau of Labor Statistics · *Employment Projections 2025–35 and AI Exposure Categories* (27 August 2026)

AI-exposure tier: Very high. Projected employment change 2025–35: -3.8%. Matched to Insurance underwriters.

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Microsoft Research · *Working with AI: Measuring the Applicability of Generative AI to Occupations* (10 July 2025)

AI applicability score 0.16 (percentile 56 of 785 occupations) for SOC 13-2053.

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Anthropic · *Anthropic Economic Index report: Cadences* (26 June 2026)

Observed exposure 0.06 for SOC 13-2053 (percentile 70 of 756 occupations).

PUBLISHER PDF

World Economic Forum · *The Future of Jobs Report 2025* (7 January 2025)

Accountants and auditors appear on the WEF fastest-declining list for 2030, while fintech engineers and big-data specialists lead the growing list; finance roles that pivot toward data and judgement fare best.

PUBLISHER PDF

UK Department for Science, Innovation and Technology · *Assessment of AI capabilities and the impact on the UK labour market* (28 January 2026)

UK context: around 70% of UK workers are in occupations with tasks AI could perform or enhance, above the US average; a one-standard-deviation rise in exposure was associated with a 3.9% fall in UK job postings.

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ALSO CITED FOR THIS ROLE

PwC · *2026 Global AI Jobs Barometer* (May 2026)

PwC finds the most exposed roles adding judgement- and empathy-heavy tasks 2.5 times faster than the least exposed, and a 62% wage premium for AI skills: exposure in finance is raising the value of advisory work.

PUBLISHER PDF

Archived copies are served only where the licence permits; otherwise the link goes to the publisher. Full research library: https://www.careerguard.ai/sources

§ 12 APPENDIX

Method and sources

Each report was written from a large body of published research. The exposure score itself is computed, not written: it is the CareerGuard Exposure Index, a weighted average of occupation-level measures from the US Bureau of Labor Statistics (AI-exposure classification and 2025–35 projections), Microsoft Research (AI applicability scores) and Anthropic (observed exposure), together with the adoption rating published on the report. The organisations and publications below are the standing literature behind the narrative sections. Every source, with dates, licences and archived copies where we are permitted to hold them, is catalogued in the research library.

Exposure Index v2 (October 2026). Each input is scaled to 0–100 and weighted: task applicability 35% (Microsoft AI applicability score ÷ 0.5), observed usage 20% (Anthropic observed exposure ÷ 0.75), official exposure tier

20% (BLS very high = 100, high = 70, moderate = 40, low = 10), labour-market trajectory 10% (50 2.5 × projected % employment change), published adoption rating 15% (very high = 85, high = 70, medium-high = 55, medium = 40, low-medium = 25, low = 10). Inputs not measured for an occupation are dropped and the remaining weights renormalised. An editorial adjustment of at most ±12 points is allowed only for automation channels the measures cannot see (robotics, self-service, machine vision, medical imaging, RPA/OCR, generative video) and is always logged with its reason. Scores are whole numbers, not rounded to five. The change window shifts one notch (a year at each end) per ten points of movement.

I GLOBAL AND MACROECONOMIC IMPACT OF AI ON WORK

World Economic Forum

The Future of Jobs Report series — Employer survey of expected job growth and decline, skill shifts and technology adoption (2020, 2023 and 2025 editions); Artificial Intelligence and the Future of Entry-Level Work (2026).
AI governance and transformation reports — Frameworks on ethical AI, talent strategy and industry transformation.

McKinsey Global Institute

AI, Automation and the Future of Work series — Research quantifying automation potential by task, sector and demographic, from "Jobs Lost, Jobs Gained" to "Agents, robots, and us" (2025).
Industry-specific reports — Financial services, healthcare, manufacturing and others.

PwC

Global AI Jobs Barometer — Annual analysis of job postings and productivity by AI exposure (2024–2026 editions).
Upskilling Hopes and Fears survey — Employee perceptions and readiness.

Microsoft Research and Anthropic

Working with AI (2025); Anthropic Economic Index (2025–2026) — Occupation-level usage data from Copilot and Claude conversations, the two observed-usage measures behind the 2026 revision.

Stanford Digital Economy Lab and Stanford HAI

Canaries in the Coal Mine? (2025–2026); AI Index Report (annual) — Payroll evidence on early-career employment in exposed occupations; annual measurement of AI capability, investment and adoption.

Deloitte

Human Capital Trends series — Workforce, talent and HR technology trends.
Tech Trends series — Emerging technologies and their business implications.

Accenture

Technology Vision series — Forward-looking analysis of emerging technology, with emphasis on AI.
Fjord Trends — Design, innovation and human experience in a digital world.

Boston Consulting Group

AI/ML insights and industry solutions — "The AI Revolution in the Workplace" and related research.

EY

AI and workforce reports — Adoption, talent strategy and ethics.

IBM Institute for Business Value

AI and automation studies — Business models, workforce evolution and leadership.

OECD

AI Policy Observatory — International data and policy on AI, labour markets and skills.
Employment Outlook — Labour-market trends including technological impact (2023–2026 editions).

International Labour Organization

Generative AI and Jobs: A Refined Global Index of Occupational Exposure (2025) — Task-level exposure gradients for every ISCO occupation; successor to the 2023 global index.

International Monetary Fund

Staff Discussion Notes on AI and work (2024, 2026) — Complementarity framing: where AI augments and where it substitutes.

UK Department for Science, Innovation and Technology
Assessment of AI capabilities and the impact on the UK labour market (2026) — UK occupational exposure and job-posting evidence.

Brookings Institution
AI and automation research — Economic and social implications, displacement and skills.

Yale Budget Lab and Goldman Sachs Research
Tracking the Impact of AI on the Labor Market; AI and the US labour market (2026) — Aggregate labour-market monitoring; macro displacement estimates.

Oxford University (Oxford Martin School)
The Future of Employment — Frey & Osborne and subsequent research on susceptibility to automation.

MIT Technology Review
AI & Work — Reporting on AI research and its implications for industries and jobs.

Gartner
Hype Cycle for Artificial Intelligence — Maturity and adoption of AI technologies.
Future of Work reports — Workplace models and talent strategy.

U.S. Bureau of Labor Statistics
Employment Projections 2025–35; AI Exposure Categories; Occupational Outlook Handbook — Ten-year employment projections and, from the 2025 cycle, an AI-exposure tier for every detailed occupation.

Indeed Hiring Lab
AI at Work Report (2025) and posting-market updates — Skill-level transformation estimates and job-posting trends by occupation.

II CORE AI AND MACHINE-LEARNING RESEARCH

OpenAI
Research papers, blog and API documentation — Large language models, generative AI, safety and societal impact.

Google DeepMind
Research papers and blog — Reinforcement learning, AI for science, AGI and ethics.

Meta AI
Research papers and blog — Large language models, computer vision, AI for social good.

Hugging Face
Transformers library and model hub — Open-source state-of-the-art NLP models.

TensorFlow and PyTorch
Documentation and community forums — Core frameworks illustrating practical capability.

arXiv
cs.AI, cs.LG, cs.CV, cs.CL — Pre-print research.

NeurIPS and ICML
Conference proceedings — Top-tier academic research.

ACM and IEEE
Journals and proceedings — ACM Computing Surveys; IEEE Transactions on AI.

Kaggle
Datasets and competition solutions — Applied machine learning on real-world problems.

The Alan Turing Institute
Research and reports — Responsible and applied AI.

III ETHICAL AND RESPONSIBLE AI DEPLOYMENT

NIST

AI Risk Management Framework — Voluntary framework for managing AI risk.

European Commission

AI Act — Risk-tiered legal framework for AI.

Ethics Guidelines for Trustworthy AI — Principles for responsible development.

Partnership on AI

Research and best practice — Responsible AI development.

AI Now Institute

Annual reports — Social implications: power, inequality, rights.

ACM FAccT

Proceedings — Fairness, accountability and transparency.

Data & Society

Publications — Social implications of data-centric technology.

WIPO

Conversation on IP and AI — Intellectual-property implications of AI.

IEEE Global Initiative on Ethics of A/IS

Ethically Aligned Design — Recommendations for ethical AI design.

Center for AI and Digital Policy

Policy briefs — Accountable AI policy.