

Data Entry Keyers

AI heavily automating data capture, verification, and input.

EXPOSURE 80 Very high exposure	WINDOW 0–3 yrs until change lands	ADOPTION TODAY Very High	READING Core tasks are being automated now. Exposure is the share of today's work AI can plausibly take on within the window.
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§ 01 WHAT IS HAPPENING

What is happening to data entry keyers

Impact	AI, often coupled with Robotic Process Automation (RPA) and Optical Character Recognition (OCR), is automating the extraction, validation, and input of data from various sources into digital systems. This significantly reduces the need for manual data entry, shifting roles towards oversight and exception handling.
Risk	Extreme task automation; significant job displacement or role redefinition. The Data Entry Keyer role faces extreme automation risk. AI will take over most routine, high-volume data capture and input. Remaining roles will require a fundamental shift to overseeing automated processes, verifying data accuracy flagged by AI, handling complex exceptions, and potentially specializing in data quality or data annotation for AI training.
Sector readiness	Widespread & Deep Integration Industries with high volumes of data (finance, healthcare, logistics, government, retail) have aggressively adopted AI and RPA for data entry. The technology is mature and continuously improving, making further widespread integration inevitable.

§ 02 POSITION

Where you stand

- i The Data Entry Keyer role faces catastrophic transformation, with AI autonomously executing the vast majority of traditional data capture and input.
- ii AI will autonomously manage nearly all routine data processing, demanding that Data Entry Keyers pivot to rigorous AI oversight, complex exception handling, and specialized data quality assurance for AI training.
- iii Survival and impact will hinge on Data Entry Keyers mastering AI/RPA tools, intensely validating AI outputs, and proactively developing skills in data integrity and AI model training to contribute to autonomous workflows.

§ 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 **AI-Automated Data Extraction (OCR/IDP) Oversight.** Data Entry Keyers are now overseeing AI systems that autonomously "read" and extract information from scanned documents, forms, invoices, and even handwritten text. This means their primary focus shifts to validating extracted data, correcting AI errors, and managing the overall automation process.
- 02 **Intelligent Data Validation & Cleaning.** Data Entry Keyers are working with AI tools that autonomously cross-reference extracted data with existing databases for accuracy and consistency, flagging discrepancies. The role involves reviewing these flagged items for human intervention, identifying root causes of errors, and performing targeted corrections.
- 03 **Robotic Process Automation (RPA) Monitoring & Troubleshooting.** RPA bots, often integrated with AI, are autonomously performing repetitive data entry tasks directly within existing software applications. Data Entry Keyers might transition to configuring, monitoring, and troubleshooting these bots, ensuring their smooth operation and addressing any process failures.
- 04 **Radical Shift to Exception Handling.** The vast majority of a Data Entry Keyer's work is transitioning to handling "exceptions"—data that AI cannot confidently process due to poor quality, ambiguity, or complex, non-standard structures. This requires advanced problem-solving skills, critical thinking, and communication, fundamentally moving beyond simple input.
- 05 **Data Quality Assurance & Auditing.** Data Entry Keyers are evolving into roles focused on ensuring the overall quality and integrity of data processed by AI. This includes performing regular audits of AI-processed data, identifying recurring error patterns, and providing feedback to improve the AI's accuracy over time.

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- 06 **Managing AI-Powered Tools & Workflow Orchestration.** Data Entry Keyers will need to become highly proficient in using and managing the interfaces of various AI/RPA software, understanding their capabilities, setting up basic configurations, and knowing how to interpret performance metrics to optimize their efficiency and orchestrate automated data flows.
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- 07 **Contribution to AI Model Training (Data Annotation).** An emerging and critical opportunity for Data Entry Keyers involves meticulously annotating and labeling large datasets to train the very AI models that automate data entry. This requires extreme attention to detail, understanding AI's learning requirements, and ensuring data consistency.
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- 08 **Understanding Structured vs. Unstructured Data.** Data Entry Keyers are increasingly distinguishing between highly structured data (easily automatable by AI) and complex, unstructured data (requiring nuanced human interpretation or specialized AI training). This guides which tasks are prioritized for human input or advanced AI development.
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- 09 **Direct Database Interaction & Data Manipulation.** Data Entry Keyers may learn to interact directly with databases, CRM systems, or enterprise resource planning (ERP) platforms to verify and correct AI-processed data, or to manually input highly complex, non-standard datasets. This involves moving beyond simple form filling to direct data manipulation and integrity checks.
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- 10 **Problem-Solving Beyond Simple Input.** The job is fundamentally transitioning from purely inputting data to diagnosing why AI failed to process certain data and finding comprehensive solutions. This could involve identifying issues with source documents, data formats, or the AI's configuration, then implementing corrective actions and providing feedback to AI developers.
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- 11 **Cross-Functional Collaboration for Process Improvement.** Data Entry Keyers are collaborating with IT professionals, business analysts, and process owners to identify pain points in current data flows and aggressively suggest ways to improve efficiency through further automation or refinement of AI systems.
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- 12 **Adapting to Dynamic & Evolving Workflows.** As AI systems continuously learn and improve, the nature of tasks assigned to Data Entry Keyers will constantly evolve. Flexibility, a relentless willingness to adapt to new methods, and continuous aggressive reskilling to manage evolving automated processes will be paramount for survival.
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- 13 **Cybersecurity Awareness & Data Integrity.** With more automated data flows, Data Entry Keyers need heightened awareness of data security and integrity risks. This involves understanding risks of data corruption, unauthorized access, or malicious input affecting AI systems, and adhering to strict security protocols.
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- 14 **Communication Skills (Explaining Data Issues).** Clearly and precisely communicating issues with data quality, AI outputs, or process failures to supervisors, IT support, or data scientists is becoming an increasingly important skill. This requires concise and accurate articulation of complex technical problems.
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- 15 **Specialization in Sensitive & Complex Data Sets.** Remaining human roles for Data Entry Keyers will radically specialize in handling highly sensitive, complex, or legally nuanced data (e.g., specific medical records, legal documents, classified information). These tasks often require human discretion and compliance knowledge beyond AI's current capabilities.
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What is pushing this change

- 01

High Volume of Repetitive, Rule-Based Tasks. Data entry is almost entirely characterized by high volumes of repetitive actions, making it the prime candidate for aggressive automation.
- 02

Advancements in Optical Character Recognition (OCR) and Intelligent Document Processing (IDP). AI has made unprecedented strides in "reading" and understanding text from various document types, including highly unstructured and handwritten forms.
- 03

Growth of Robotic Process Automation (RPA). Software robots can autonomously mimic human interactions with digital systems to automate repetitive data input tasks directly within applications.
- 04

Demand for Increased Efficiency & Radical Cost Reduction. Companies are relentlessly seeking ways to radically reduce operational costs and achieve hyper-throughput in data processing.
- 05

Critical Need for Improved Data Accuracy & Consistency. AI can process data with vastly higher consistency and dramatically lower error rates than manual human input over massive volumes.
- 06

Pervasive Digitization of Documents & Workflows. The radical shift from paper-based to entirely digital records provides the essential digital input for AI and RPA systems.
- 07

Ubiquitous Availability of Affordable Cloud-Based AI/RPA Tools. The pervasive accessibility and affordability of AI and RPA solutions via cloud services enable widespread, rapid adoption, even for smaller businesses.
- 08

Severe Labor Shortages & High Turnover in Manual Data Entry. The severe difficulties in recruiting and retaining staff for repetitive data entry roles, coupled with rising labor costs, compel aggressive automation investment.
- 09

Urgent Demand for Real-Time Data Access. Businesses require immediate, real-time access to up-to-date data for instant decision-making, which manual processes simply cannot provide.
- 10

Accelerating Pressure for Faster Business Processes. Hyper-accelerated business processes and demand for instant insights are driving the fundamental elimination of manual data bottlenecks.

Impact by sector

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

Healthcare Data Entry
(e.g., Medical Records,
Claims)

Radical automation due to highly structured forms and immense volume. Shift to rigorously verifying complex medical codes, ensuring patient privacy, and managing AI-driven coding systems.

Financial Services Data Entry (e.g., Invoices, Transactions)	Near-total automation for reconciliation, transaction processing, and invoice automation. Focus shifts to handling critical fraud detection exceptions and ensuring stringent regulatory compliance.
Government/Public Sector Data Entry (e.g., Forms, Applications)	Radical automation for standardized forms, but intense human oversight often needed for highly sensitive personal data, unique or extremely complex application forms, and strict compliance.
E-commerce/Retail Data Entry (e.g., Inventory, Product Listings)	Near-total automation for routine inventory updates, product details, and sales data. Shift to product data enrichment, managing AI-driven inventory systems, and rigorous content quality validation.
Small Businesses/Freelance Data Entry	Automation might be slightly slower due to lower volumes and less investment in complex systems, but highly accessible AI tools will still radically impact manual tasks, leading to pervasive advisory roles or elimination.

Skills to build

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

- 01 **Attention to Detail & Accuracy (for oversight).** Maintaining extreme precision in reviewing AI-processed data, spotting subtle errors, and ensuring the absolute integrity of information in automated workflows.
- 02 **Proficiency with AI/RPA Tools & Workflow Management.** Ability to effectively use, monitor, configure, and manage various AI-powered data extraction, RPA, and data validation platforms, orchestrating automated workflows.
- 03 **Problem-Solving & Complex Exception Handling.** Diagnosing why AI failed to process certain data, identifying root causes of complex failures, and finding comprehensive solutions for ambiguous or non-standard cases.
- 04 **Data Quality Assurance & Automated Verification.** Implementing processes to ensure data cleanliness, consistency, and reliability, and performing rigorous checks on AI-generated data outputs.
- 05 **Basic IT/Technical Troubleshooting (Automation Focus).** Basic understanding of system interfaces, common software issues in automation, and the ability to diagnose or report technical problems with AI/RPA tools.
- 06 **Adaptability & Relentless Continuous Learning.** A relentless willingness to learn new AI technologies, adapt to radically evolving workflows, and continuously acquire new skills in data management and automation.

- 07 **Ethical Data Handling & Privacy Guardianship.** Profound understanding of data privacy principles (e.g., GDPR, CCPA), ensuring secure handling of sensitive information, and recognizing ethical implications of AI use.
- 08 **Communication Skills (for reporting complex issues).** Clearly and precisely communicating complex data discrepancies, automation failures, or critical exceptions to supervisors, IT support, or data scientists.

§ 07 INSTRUMENTS

11 ENTRIES

Tools in use

KINDS OF TOOL WORTH KNOWING

- 01 **Intelligent Document Processing (IDP) Software.** Software that uses AI to autonomously extract, classify, and validate data from various unstructured and semi-structured documents.
- 02 **Robotic Process Automation (RPA) Platforms.** Platforms that enable the creation and management of software robots to autonomously perform repetitive, rule-based tasks across different applications.
- 03 **AI-Powered Data Validation Tools.** AI-driven tools that autonomously verify the accuracy and consistency of data, often by cross-referencing with other sources or flagging anomalies for human review.
- 04 **Spreadsheet Software with AI Features (e.g., Excel Copilot).** Popular spreadsheet applications (like Microsoft Excel or Google Sheets) increasingly embedding AI features for autonomous data analysis, cleaning, and transformation.
- 05 **Data Annotation Platforms.** Platforms used to manage human annotation of data (text, images, audio) to create meticulously labeled datasets for training highly accurate machine learning models.
- 06 **Cloud-Based Document Management Systems (with AI OCR).** Cloud storage and management systems that incorporate AI-powered Optical Character Recognition (OCR) for autonomous indexing and search of scanned documents.

NAMED TOOLS ALREADY IN USE

UiPath

VISIT

Leading Robotic Process Automation (RPA) platforms that enable the configuration of software robots to autonomously execute vast data entry and processing tasks.

Abbyy FineReader

VISIT

Advanced Intelligent Document Processing (IDP) and Optical Character Recognition (OCR) software for autonomously extracting structured and unstructured data from various document types.

Google Cloud Document AI

VISIT

Cloud-based AI services that offer powerful capabilities for intelligent document processing, autonomous text extraction, and deep data understanding.

Microsoft Power Automate

VISIT

Microsoft's automation platform that integrates RPA with AI capabilities for intelligent data extraction and autonomous workflow automation.

Scale AI

VISIT

Platforms that connect organizations with human annotators to label and enrich datasets, crucial for training and rigorously improving AI models.

§ 08 EXAMPLES

5 EXAMPLES

In practice

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

Automate Invoice Data Entry

EXAMPLE 1

HOW

Implement AI-powered Intelligent Document Processing (IDP) to autonomously scan incoming invoices, extract all relevant data (vendor, amount, date, line items), validate it against purchase orders, and post it to the accounting system for payment with minimal human intervention.

GAIN

Radically reduces manual data entry time for invoices, virtually eliminates errors, and hyper-accelerates accounts payable processes.

Validate Customer Form Data

EXAMPLE 2

HOW

Deploy an AI tool that autonomously cross-references data extracted from customer application forms with existing records in a CRM or database, automatically flagging any discrepancies or missing information for the Data Entry Keyer's immediate review and correction.

GAIN

Dramatically improves data accuracy in customer records, radically reduces manual verification time, and enhances compliance with data integrity policies.

Process Email Inquiries

EXAMPLE 3

HOW

Employ AI-powered tools that autonomously analyze incoming customer emails, extract key entities (e.g., customer ID, issue type, order number), understand the sender's intent, and automatically input this information into a CRM or ticketing system.

GAIN

Fundamentally streamlines the intake of customer inquiries, eliminates manual data transfer, and ensures hyper-fast processing of customer requests.

Digitize Historical Records

EXAMPLE 4

HOW

Utilize AI-driven OCR and IDP software to autonomously convert vast historical paper archives (e.g., legal documents, medical charts) into fully searchable digital text. The AI then automatically indexes and categorizes the content, radically speeding up digitization projects.

GAIN

Revolutionizes the conversion of large volumes of paper documents into digital, searchable formats, dramatically improving accessibility and reducing physical storage needs.

Annotate Images for AI Training

EXAMPLE 5

HOW

Engage in data annotation tasks where Data Entry Keyers meticulously label objects within images (e.g., bounding boxes for vehicles, features on a face) or specific phrases within text documents. This human-labeled data then serves as the critical training fuel for AI models to learn new autonomous tasks.

GAIN

Directly contributes to the development and rigorous improvement of AI automation tools, creating critical opportunities for collaboration between humans and AI at the foundational level.

§ 09 CONTEXT

How this role compares

Three neighbouring roles chosen to show the direction of travel.

Clerical Assistant (Routine tasks)

MORE EXPOSED

AI IMPACT

Catastrophic (AI excels at drafting, scheduling, and basic communication, autonomously.)

WORK MOVES TO

Immediate need for radical re-skilling into AI oversight, complex coordination, or executive support.

Data Annotator / Data Quality Analyst (AI Training)

DIFFERENT SKILLS, GROWING

AI IMPACT

Foundational (They meticulously prepare and validate data for AI models, or specialize in ensuring AI data integrity; immense demand.)

WORK MOVES TO

Precision in labeling, understanding AI model requirements, data governance, and advanced analytical skills.

Data Scientist / Machine Learning Engineer

COMPLEMENTARY, LESS EXPOSED

AI IMPACT

Foundational (They design and build the very AI models that autonomously execute data entry and other processes; immense demand.)

WORK MOVES TO

Deep expertise in advanced AI/ML algorithms, programming, model development, and ethical AI implementation.

§ 10 VERDICT

Closing judgement

The Data Entry Keyer role faces catastrophic transformation, with AI autonomously executing the vast majority of traditional data capture and input. While manual keying tasks will virtually disappear, survival hinges on a radical pivot: individuals must aggressively re-skill to become experts in overseeing AI systems, rigorously ensuring data quality, handling complex exceptions, and contributing to the training and continuous improvement of AI models. The future is about collaborating with AI to achieve unprecedented levels of data accuracy and operational efficiency.

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

75 to 80

WINDOW

0-3 years (unchanged)

The 4 October 2026 review moved the score up by 5 points.

Microsoft's AI applicability score for the matching occupation is 0.32, in the top decile of 785 US occupations; Anthropic's observed exposure (the share of the occupation's tasks already being done with Claude) is 0.67, which is heavy by the standards of the 756 occupations measured; the US Bureau of Labor Statistics places it in the 'very high' AI-exposure tier; BLS projects employment to fall 25.5% over 2025–35. Blending our 2025 editorial figure (60%) with the 2026 evidence composite (40%) moves the score from 75 to 80.

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: -25.5%. Matched to Data entry keyers.

PUBLISHER PDF ARCHIVED COPY

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

AI applicability score 0.32 (percentile 91 of 785 occupations) for SOC 43-9021.

PUBLISHER PDF ARCHIVED COPY

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

Observed exposure 0.67 for SOC 43-9021 (percentile 100 of 756 occupations).

PUBLISHER PDF

International Labour Organization · *Generative AI and Jobs: A Refined Global Index of Occupational Exposure* (May 2025)

All thirteen occupations in the ILO's highest exposure gradient are clerical, including data entry clerks, typists, accounting and bookkeeping clerks and general office clerks.

PUBLISHER PDF ARCHIVED COPY

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

Administrative assistants, executive secretaries, data entry clerks and accounting/bookkeeping clerks all appear on the WEF 2030 fastest-declining list.

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.

PUBLISHER ARCHIVED COPY

ALSO CITED FOR THIS ROLE

McKinsey Global Institute · *Agents, robots, and us: Skill partnerships in the age of AI* (25 November 2025)

Administrative work is among the "agent-centric" occupations where automatable activities exceed half of working hours.

PUBLISHER

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 and then, in October 2026, re-scored against occupation-level evidence: the US Bureau of Labor Statistics AI-exposure classification and 2025–35 projections, Microsoft Research's AI applicability scores and Anthropic's observed-exposure data, cross-checked against the reports listed in the Evidence section above. 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.

Scores are revised by blending the previous editorial figure (60%) with a composite of the three occupation-level measures (40%), capped at fifteen points per revision and rounded to the nearest five. The window shifts one notch when a score moves ten points or more. Hand adjustments are recorded with their reason in the revision log.

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 AI/IS

Ethically Aligned Design — Recommendations for ethical AI design.

Center for AI and Digital Policy

Policy briefs — Accountable AI policy.