



AI IMPACT UPON EMPLOYMENT

Lecturer: Mark Gillan

THE IMPACT ACROSS SECTORS

- Discussion as to employment
- How AI is reshaping jobs globally
- Sectors at risk and sectors growing
- New roles emerging
- Risks and opportunities for workers



AI AND EMPLOYMENT: AN OVERVIEW

- AI adoption affects both job creation *and* job displacement.
- Research shows AI exposure varies by occupation and tasks within jobs. Some roles shrink, others grow or transform.
- Study identifies key elements which determine impact of AI on jobs. Link to the King's College London research: [Study identifies key elements which determine impact of AI on jobs | King's College London](#)
- Many other studies, do some research yourself to view articles of point
- Governments and employers are beginning to address these shifts through training and policy. Source: [AI Skills for Life and Work: Labour market and skills projections - GOV.UK](#)

COMPUTING & TECH SECTORS

- **AI fuelled growth:** AI-related jobs experienced a reported 29% rise in employment in 2023, driven by diversified companies.
- Source: [Artificial Intelligence sector study 2023 - GOV.UK](#)
- Rapid demand for **software developers, AI engineers, data scientists** (source Business Insider magazine)
- But many tech firms are cutting roles: in 2026, Amazon, Citi, Meta and others announced major layoffs tied partly to AI restructuring.
- **Insight:** AI boosts productivity but can reduce traditional development roles while increasing specialist AI roles.



CYBERSECURITY: EXPANSION & NECESSITY

- As AI automates tasks, it also creates greater **cybersecurity exposure and risk**.
 - Cyber roles expanding due to:
 - AI-augmented threats (deepfakes, automated attacks)
- Need for skilled analysts to secure AI systems.
- Source: The Guardian newspaper
- Opportunity: AI security specialists, ethical hackers, AI monitoring roles.

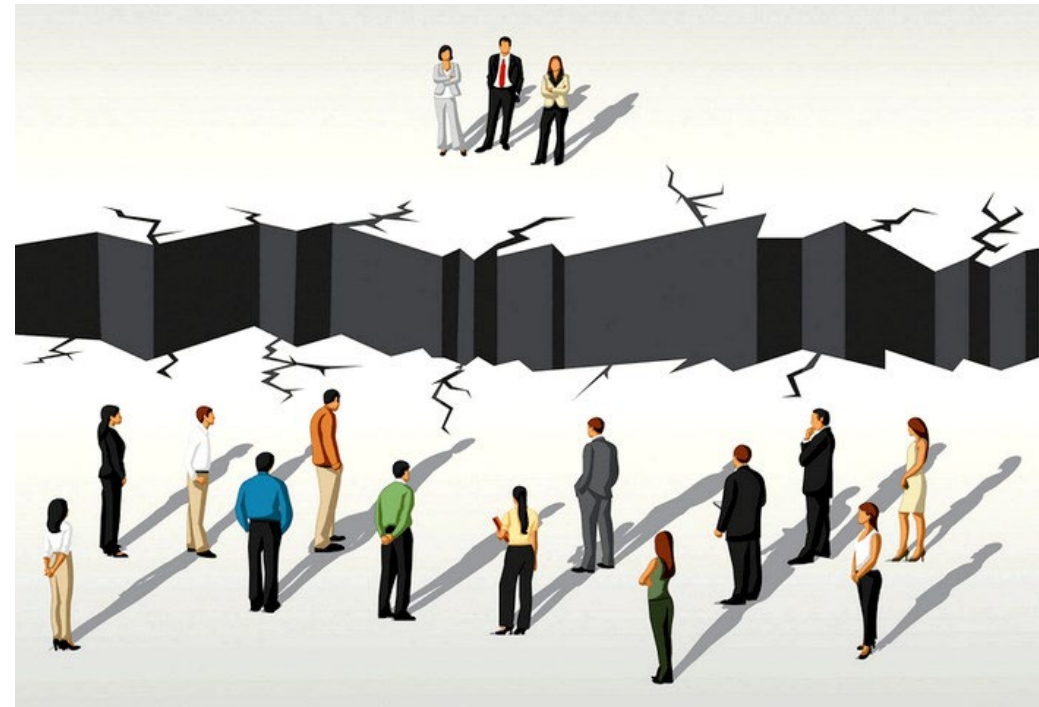


AI CREATING NEW OCCUPATIONS

- **Prompt engineers** – craft effective prompts for AI systems.
- **AI explainability specialists** – interpret and explain AI decisions.
- **AI auditors & compliance officers** – ensure ethical, legal use
- **Machine learning operations (MLOps) engineers** – deploy and manage models.
- Industry report finds over **78% of G7 job roles now reference AI skills** in job postings.

SKILLS GAP AND TRAINING IMPERATIVE

- Up to **450 million workers** worldwide need AI upskilling by 2030.
- UK and Scottish employers report shortages in digital skills, especially AI and cloud technologies.
- Source: [Tech revolution to impact half a million Scottish jobs | Open University in Scotland](#)
- Training programmes like AI bootcamp (900+ leaders) reflect industry response to skill demand.
- Source: [PwC launches AI bootcamp for UK leaders](#)



ENTRY-LEVEL ROLES UNDER PRESSURE

- Studies suggest **junior positions have declined in AI-exposed firms**, with a 13% relative drop among young workers.
- Source: St.John's University article [How AI Is Changing the Job Market for Today's College Students](#)
- Employers less likely to post new vacancies for machine-learning heavy roles.
- Source: [New study reveals early impact of AI on job market in UK | King's College London](#)
- Result: early-career opportunities are tightening where AI automates routine tasks.



TRADITIONAL INDUSTRIES AND AI JOB RISK

Manufacturing & Logistics

- Robotics and automation replace repetitive tasks on assembly lines.

Retail & Customer Service

- Automated checkouts and chatbots handle routine customer queries.

Professional Services

- AI systems assist with contract review, document analysis, and pattern recognition in legal, accounting, and admin roles.

Creative Industries

- Generative AI is disrupting photography and content creation; a UK report noted **58% of photographers lost work due to AI.**

Source: Generative AI could hollow out the photo industry within five years, pro organization warns as creators band together against "the greatest acts of theft in modern history" | Digital Camera World

WHITE COLLAR AT RISK

- AI isn't only a blue-collar issue: professionals such as legal associates, junior analysts, and support staff are vulnerable to automation of routine cognitive tasks.
- Source: [What Jobs Will AI Replace? | Built In](#)
- Office admin and clerical roles show high exposure to AI disruption.
- Source – Office for National Statistics: [Research into how artificial intelligence \(AI\) is affecting employment - Office for National Statistics](#)



OPPORTUNITIES: AI AUGMENTS JOBS

- Not all AI effects are negative:
- According to Financial Times articles, many roles are **augmented rather than replaced** – AI handles repetitive tasks, leaving humans for higher-level work.
- New sectors spring up around AI tools, ethics, and governance.

TRADE UNIONS

- Unions in many countries are investigating AI's employment effects.
- Focus areas include:
 - Worker retraining and reskilling
 - Job security and transition support
 - Principles for fair AI adoption
- Employers and policy makers are increasingly being pressured to prepare workforce strategies.



SECTORAL SNAPSHOT: SCOTLAND

- 18% of Scottish roles could alter significantly due to technology change within five years.
- Source: Tech revolution to impact half a million Scottish jobs | Open University in Scotland
- Many workers lack preparation for AI adoption; only **19% use AI tools at work.**
- As of January 2024, according to ScotlandIS:
 - Almost a third (32%) of organisations in Scotland are currently using AI tools, compared to 26% six months ago
 - new research by Hays has found that more organisations are currently using AI tools than six months ago, rising from 26% to almost a third (32%)
- Source: INCREASE IN USE OF AI IN SCOTLAND IN LAST SIX MONTHS, BUT MANY PROFESSIONALS FEEL UNSUPPORTED TO UTILISE NEW TECH - ScotlandIS



SUMMARY: RISKS & OPPORTUNITIES

Risks

- ❖ Entry-level job contraction
- ❖ Automation of routine tasks
- ❖ Uneven impact across sectors
- ❖ Displacement without adequate reskilling

Opportunities

- ✓ New AI specialisations
- ✓ Augmented human-AI work roles
- ✓ Higher demand for AI knowledge
- ✓ Training and lifelong learning pathways

DISCUSSION POINTS

- Should AI be actively regulated to protect jobs?
- How can workers best prepare for the changing job landscape?
- Which sectors might gain most from AI adoption?
- What role should educators and governments play in future training?

