

Generative AI and Jobs: A global analysis of potential effects on job quantity and quality

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Introduction

The ILO report on “Generative AI and Jobs: A global analysis of potential effects on job quantity and quality” discusses the ongoing debates surrounding automation and its impact on jobs, particularly in the context of Artificial Intelligence (AI) and advanced technologies like Machine Learning (ML). It highlights how the nature of technological advancements has shifted from primarily affecting manual workers in the past to now potentially impacting white-collar or knowledge workers. The introduction of ChatGPT is mentioned as a significant development that brings AI closer to the public and rekindles concerns about job loss.

Key Highlights

Job Automation

- There are two ways to study job automation. One uses job vacancy data, often from online platforms, to understand skill demand and tech adoption. The other assesses task automation potential within jobs and links it to labor market stats.
- This study focuses on Large Language Models like GPT-4. They use API calls to estimate automation scores for jobs, aligning closely with AI expert judgments. They apply this to occupation classifications and combine it with labor market expertise for global, regional, and country-level employment estimates.

ISCO-08

- The International Labour Organization (ILO) provides the ability to convert expert knowledge about occupations into global employment estimates. The ISCO-08 classification system categorizes occupations with different levels of specificity. The study creates a data frame of tasks and occupations using the ISCO-08 documentation, forming the basis for the analysis. The authors describe their approach to using GPT-4 for automation potential estimation, including generating international definitions for each 4-digit occupation code and tasks. They find GPT-4's consistency in scoring potential automation, aligning closely with human-based scoring by AI experts.

Augmentation Vs Automation

- The assessment of employment prospects for automation and augmentation by AI technologies, similar to GPT, covers 59 countries across income groups, highlighting that occupations with high augmentation potential constitute a larger share of total employment

across all income groups compared to high automation potential jobs. Gender distribution varies, with automation-related jobs increasing with income levels and having a higher female presence in high-income countries. The text outlines the methodology for estimating global employment trends, using available microdata and extrapolation for countries with missing data, aiming for a comprehensive view of global employment dynamics regarding AI's impact.

The Big Unknown

- This section addresses a group of occupations that fall between high automation and high augmentation potential, termed "the big unknown." These jobs have a mix of characteristics, making their impact from generative AI technology uncertain. They account for approximately 8.6% of global employment, totaling 281 million workers. In higher-income countries, women dominate this category, while in lower-income countries, men are more prevalent in these jobs. The direction of these jobs' evolution due to AI remains uncertain.

Mitigating the negative effects of automation

- This section discusses how automation will impact different countries. Richer countries with lots of office jobs will be affected the most, but some jobs in poorer countries like call centers are also at risk. This can be tough for workers, and negotiation between employers and workers is important.
- There's also concern about how this affects men and women. Women's jobs in richer countries are more at risk. Additionally, there's a need for people to train and check technology, but many of these jobs have poor conditions, so rules might change to make them better.

Ensuring job quality under augmentation

- This section discusses how technology can affect the quality of jobs. It can either make work more interesting by automating routine tasks or make it more challenging by controlling and monitoring workers using algorithms and data.
- Workers having a say in how technology is used is crucial for good working conditions. This can be formal through agreements or informal through teamwork.
- Regulations are needed to ensure that AI is used fairly at work, not just focusing on ethics. Discussions involving workers, employers, and governments should shape these regulations to address AI's changing nature.

Digital Divide

- The digital divide, or the gap in technology access, could widen due to the adoption of AI. It suggests that richer countries and privileged groups will benefit more from AI tools, potentially leaving low-income countries behind. Many people in these countries lack internet access and reliable electricity, which are essential for using AI effectively.

Conclusion

In conclusion, the essay explores AI's impact on jobs, emphasizing the importance of understanding automation potential, proactive policy-making, and managing transitions to ensure quality employment in the face of technological advancements. It details the study's methodology, findings, and implications for various job categories, income groups, and gender dynamics."

Read more: [ILO Working paper 96: Generative AI and Jobs: A global analysis of potential effects on job quantity and quality](#)

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