



ONLINE

LABOUR STATISTICS

ARTIFICIAL INTELLIGENCE (A.I.) FOR LABOUR STATISTICS

FROM FUNDAMENTALS TO APPLICATIONS

1 – 12 DECEMBER 2025

 2 WEEKS, 20 LEARNING HOURS


Information Note




International
Labour
Organization



International Training Centre



Harness the power of AI to transform labour statistics into real-time insights that shape the future of work.



INTRODUCTION/BACKGROUND

The world of work is undergoing rapid transformation. Digitalization, automation, and the expansion of big data are reshaping labour markets in ways that traditional statistical tools cannot fully capture. To respond to these shifts, labour statisticians, labour market analysts, managers, and policymakers require innovative approaches that go beyond conventional analysis methods to be able to respond to the rapid transformation in the world of work. Artificial Intelligence (AI), machine learning, and generative AI are emerging as powerful instruments that can enable labour statisticians and labour market analysts generate timely insights, monitor labour market trends, and support evidence-based decision-making to promote decent work and social justice for all.

This course provides participants with a basic understanding of how AI, machine learning, and generative AI can support government officials, labour statisticians, data analysts, social partners, and managers to better measure the labour market with higher efficiency and adaptability to be able to respond to the rapid labour market transitions in the world of work. It highlights how established sources of information—such as household surveys, censuses, and administrative data—can be enriched with AI technologies, including machine learning, big data, online job postings, and web-based content. Through a combination of lectures, tutorials, and practical exercises, participants will gain hands-on experience working with various AI tools and softwares¹. At the same time, the programme emphasizes the critical ethical, privacy, and governance questions that accompany the use of big data and AI in labour market analysis. By blending theoretical knowledge with practical applications, the course equips participants with the tools needed to analyze and communicate insights about the evolving world of work.

LEARNING OBJECTIVES

By the end of the programme, participants will be able to:

- **Understand** the basic concepts of AI, machine learning, and generative AI, and their relevance for labour statistics.
- **Recognize** key terms and approaches, e.g., RAG, MCP, agentic workflows, deep learning, “vibe coding”.
- **Identify** how AI can be applied to improve labour statistics such as autocoding, documentation and data search, data analysis.
- **Assess** opportunities and limitations of AI and big data in labour market monitoring and policymaking.
- **Develop** awareness of ethical, privacy, and governance issues related to AI in official statistics.
- **Communicate** insights on AI applications in labour statistics to technical and policy audiences.
- **Collaborate** on pilots and share findings through the AI course network, fostering a community of practice.

¹ Disclaimer: Any costs associated with using AI tools or models are the responsibility of the participants and not part of the course fees, the course will only demonstrate how the tools can be used.

TARGET AUDIENCE

National Statistical Offices (NSOs); Ministries of Labour and related Institutions (such as labour observatories); Governmental agencies in charge of labour market data analysis and SDG national reporting; ILO Social Partners (Employers' and workers' organizations), Research and academic institutions; International organizations; Development agencies; in addition to Non-governmental organizations.

ONLINE COURSE CONTENT

Introduction to AI in Labour Statistics

- History of AI, generative AI, GPT boom
- Key terms: ML, DL, RAG, MCP, agentic workflows, vibe coding
- Labour statistics context

AI in Official Statistics: Concepts & Methodology

- Complementing traditional sources (surveys, censuses, admin data)
- Literature review and methodology updates

AI framework for Strategic Leadership

- Managerial reflections
- AI pillars: strategy, governance, infrastructure, workforce skills

Application 1: Autocoding for Occupations

- ISCO and national classifications
- ML/LLM approaches and demos
- Detecting new emerging occupations

Application 2: AI for Documentation & Data Search

- Knowledge management and retrieval-augmented generation
- AI assistants for labour statistics

Application 3: Labour Market Intelligence & Reporting

- Dashboards, trend detection, policy reporting
- Vibe coding examples

TRAINING METHODOLOGY

This online course follows an **interactive, practice-oriented approach**, combining theoretical knowledge with hands-on application:

- **Lectures & Expert Talks**
 - Short, focused presentations introducing concepts, frameworks, and international standards.
 - Delivered by ILO specialists, data scientists, and guest experts.
- **Practical Exercises**
 - Hands-on data preparation, analysis, and visualization tasks.
 - Participants apply AI and ML methods to real-world datasets.
- **Collaborative Learning**
 - Small group projects to foster teamwork and peer-to-peer exchange.
 - Online forums and breakout sessions to encourage interaction.
- **Continuous Support & Feedback**
 - Trainers provide feedback on exercises and projects.
 - Access to open-source tutorials (ILOSTAT, OECD, World Bank).
 - Mentoring sessions to support participants' individual projects.

DATES

1 – 12 December 2025.

LANGUAGE

The course will be conducted in **English**.

COST AND FINANCING

The course is fee-paying. The total cost is **Euro €780**

PAYMENTS AND CANCELLATION

- Payments need to be received latest 14 days before the beginning of the course. Payment modalities will be communicated in the letter of acceptance. In the event of a cancellation, a participant may be substituted with another candidate. Cancellations remain free of charge if communicated latest 14 days prior to the start of the course.
- For cancellations after this date, a penalty will be applied. For further information regarding payment, cancellation and refunds, please consult: <https://www.itcilo.org/applications-payments-cancellation>

HOW TO APPLY

To register, kindly fill in and submit the online registration form available through the following link:
<https://oarf2.itcilo.org/DST/A9719037/en>

The selection of applicants will be based on the submission of:

- A completed **online registration** form
- An **official sponsorship letter** issued by their organization (or donor organization),

Kindly note that we need to receive the above-mentioned documents in order to register you for the course!

We strongly recommend applying early since admission is competitive and space is limited!

DEADLINE FOR APPLICATION

The deadline for applications is **24 November 2025**.

CONTACTS

- Administrative arrangements can be coordinated with the course assistant via ([lmstats@ itcilo.org](mailto:lmstats@itcilo.org));
- For the technical coordination, please also be in contact with the ITCILO programme officer Mr. Mostafa Mohamed (m.mohamed@itcilo.org).

WITHDRAWAL, CANCELLATION POLICY, AND REFUNDS FOR OPEN COURSES

If an enrolled participant wishes or must withdraw from a course, they may choose to apply to a different course or be substituted by another candidate. The participant must notify the Centre, in writing, of their decision at least 14 days prior to the start date of the course. Cancellation of participation in regular courses will result in the following penalties:

- 14 days or more prior to the start date of the course: No penalty, 100% refund of amount paid less applicable bank charges
- 8 to 13 days prior to the start date of the course: Penalty of 50% of course price, refund of residual amount paid (if any) less applicable bank charges
- 7 days or less prior to the start date of the course: Penalty of 100% of course price.

INFO

FOR FURTHER INFORMATION PLEASE CONTACT

International Training Centre of the ILO
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10127 Turin – Italy

Administrative arrangements:

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Technical coordination:

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COURSE CODE: A9719037