HUMCAP AI Academy – Foundation Series

AI-Powered MEAL

Using Artificial Intelligence to Strengthen Monitoring, Evaluation, Accountability and Learning in Humanitarian and Development Programmes

1. Course Title

AI-Powered MEAL

Using Artificial Intelligence to Strengthen Monitoring, Evaluation, Accountability and Learning in Humanitarian and Development Programmes

2. Course Description

Monitoring, Evaluation, Accountability and Learning (MEAL) professionals are required to manage increasing volumes of information, respond to complex reporting requirements and generate timely evidence for programme decisions, often within constrained operational environments. Artificial Intelligence offers practical opportunities to support this work, but its responsible use depends on sound MEAL practice, appropriate methodologies, reliable data and careful professional judgement.

This practical and highly interactive course explores how AI can be integrated responsibly throughout the MEAL cycle—from developing indicators and data collection tools to reviewing data quality, analysing quantitative and qualitative information, synthesising community feedback and translating evidence into learning and programme action.

The course does not present AI as a substitute for MEAL expertise or engagement with affected populations. Instead, it demonstrates how AI can serve as a professional co-pilot: helping practitioners structure analysis, identify inconsistencies and evidence gaps, work more effectively with large volumes of information and strengthen the clarity and consistency of MEAL products.

Particular attention is given to accountability, data protection, confidentiality, bias, methodological limitations and the validation of AI-generated outputs. Built around realistic humanitarian and development scenarios, the course combines established MEAL practices with responsible AI methodologies that participants can apply within their own organisations.

3. Learning Objectives

By the end of the course participants will be able to:

- identify appropriate and inappropriate uses of AI across the MEAL cycle;
- strengthen MEAL plans, indicators and data collection tools through structured AI-supported approaches;
- use AI to support data quality review and identify missing, inconsistent or potentially unreliable information;

- apply AI to quantitative and qualitative analysis while maintaining methodological rigour and professional oversight;
- analyse community feedback and accountability information while protecting confidentiality and ensuring appropriate human review;
- translate MEAL evidence into clear findings, learning products and programme actions;
- apply responsible AI practices in accordance with data protection, ethical and organisational requirements;
- critically review and validate AI-generated analysis before it informs programme decisions or external reporting.

4. Target Audience

This course is designed for professionals involved in monitoring, evaluation, accountability, learning, programme quality and evidence-based decision-making across international NGOs, UN agencies and humanitarian and development organisations, including:

- MEAL Managers and Officers
- Monitoring and Evaluation Specialists
- Accountability and Community Engagement staff
- Programme Quality Managers
- Programme Managers
- Information Management Officers
- Data and Reporting Officers
- Technical Advisors
- Evaluation consultants
- Staff responsible for donor reporting and programme learning

5. Course Programme

The course is organised into four sequential modules that follow the main functions of the MEAL cycle, from system design and data collection to analysis, accountability, learning and responsible use of evidence.

Module 1 – Designing AI-Supported MEAL Systems

Effective use of AI in MEAL begins with a sound results framework and a well-designed monitoring system. AI cannot compensate for unclear programme logic, weak indicators or inappropriate data collection methods. This module therefore begins by examining where AI can add value within the MEAL cycle and where professional judgement remains essential.

Participants will explore how AI can assist in reviewing the coherence between a Theory of Change, results framework, activities, indicators and reporting requirements. Practical applications include strengthening indicator formulations, identifying gaps in indicator definitions, proposing appropriate disaggregation, reviewing means of verification and developing structured monitoring questions.

The module also examines how AI can support the preparation and review of MEAL plans, Indicator Performance Tracking Tables, data collection plans and evaluation questions. Throughout the module, participants will assess AI-generated suggestions against programme context, methodological requirements and organisational standards rather than accepting them at face value.

Module 2 – Data Collection, Management and Quality

The quality of MEAL analysis depends on the quality of the information collected. This module focuses on practical ways in which AI can assist with the development, review and management of data collection processes while maintaining ethical, methodological and operational standards.

Participants will use AI to review questionnaires, interview guides, focus group discussion guides and other data collection tools for clarity, relevance, neutrality, accessibility and potential bias. The module

also considers the responsible use of AI for translation, simplification and adaptation of questions, emphasising the need for contextual and linguistic validation by qualified staff.

The module then explores AI-supported approaches to data management and quality assurance, including the preparation of data dictionaries, coding frameworks, validation rules and data cleaning protocols. Participants will examine how AI can help identify missing values, duplicates, outliers and internal inconsistencies, while recognising that decisions to correct, exclude or interpret data must remain documented and professionally supervised.

Module 3 – AI-Assisted Analysis, Evaluation and Learning

This module examines how AI can help MEAL teams organise, analyse and interpret quantitative and qualitative evidence. The emphasis is not on automated decision-making, but on using AI to structure analytical work, test interpretations, identify evidence gaps and make large volumes of information more manageable.

For quantitative information, participants will explore how AI can support analysis planning, the selection and explanation of appropriate calculations, the interpretation of tables and trends, and comparison across periods, locations and population groups. Particular attention is given to disaggregation, uncertainty and the distinction between correlation, contribution and causality.

For qualitative information, participants will practise developing coding frameworks, identifying recurring and divergent themes, comparing perspectives and synthesising open-ended responses, interview notes and focus group findings. The module also demonstrates how AI can assist with evaluation matrices, triangulation and the critical review of findings, conclusions and recommendations.

Finally, participants will consider how AI can support learning processes by synthesising monitoring findings, evaluations, lessons learned and previous programme documentation into learning briefs, reflection questions and practical management actions.

Module 4 – Accountability, Reporting and Responsible AI

Accountability requires more than collecting feedback. It requires organisations to understand what communities are saying, identify concerns that require action and communicate how feedback has influenced programme decisions. This module explores how AI can help organise and analyse community feedback while preserving confidentiality, context and appropriate human oversight.

Participants will examine the use of AI to classify feedback, identify recurring themes, compare perceptions across groups and locations and support closure of the feedback loop. Special attention is given to sensitive complaints, safeguarding, protection and Prevention of Sexual Exploitation and Abuse (PSEA), where automated classification or summarisation must never replace established referral and escalation procedures.

The module also addresses the use of AI in monitoring reports, donor reporting, learning products and management summaries. Participants will practise translating evidence into clear findings and actions while checking for unsupported claims, overstatement and inconsistencies between source data and narrative conclusions.

The final part of the module focuses on responsible AI practice in MEAL, including data protection, informed consent, confidentiality, anonymisation, risk of re-identification, bias, hallucinations, documentation of AI use and the need for an appropriate audit trail. The course concludes with a structured MEAL quality and responsible AI review based on a realistic case study.

6. Methodology

The course combines expert presentations, live AI demonstrations, guided practical exercises, individual and group work, humanitarian and development case studies and facilitated discussions.

Participants will work with realistic MEAL plans, results frameworks, indicators, data collection tools, synthetic datasets, community feedback, evaluation evidence and reporting extracts. Exercises are

designed to demonstrate both the value and the limitations of AI, with continuous emphasis on critical review, methodological quality and responsible decision-making.

The training is highly practical and enables participants to transfer AI-supported approaches directly into their existing MEAL processes, regardless of the specific data collection, analysis or reporting platforms used by their organisations.

7. Duration

12 hours

Three live online sessions of four hours each, delivered via Zoom.

The course may be delivered over three consecutive days or scheduled over two weeks to allow participants to apply selected techniques between sessions.

8. Pre-requisites

Participants should have a basic understanding of Monitoring, Evaluation, Accountability and Learning processes in humanitarian or development programmes.

Completion of the AI Essentials for Humanitarian Professionals course, or equivalent knowledge of Generative AI, is strongly recommended.

No advanced statistical, programming or data science skills are required.

9. Materials Included

Participants will receive a comprehensive set of practical learning resources, including:

- Participant Workbook and Exercise Pack
- HUMCAP AI for MEAL Framework, including the AI-Generated Analysis Validation Process
- AI Prompt Library for MEAL
- MEAL Design and Data Collection Toolkit
- Data Quality and Analysis Toolkit
- Accountability and Learning Toolkit
- Responsible AI and Data Protection Checklist
- Certificate of Completion