



AI & Big Data in Health Research: Tools & Apps



AGILE LEADERS
Training Center

AI & Big Data in Health Research: Tools & Apps

Course Overview

This program provides a comprehensive and practical understanding of how AI and big data analytics are transforming modern health research, public health systems, and clinical studies. Participants explore AI in health research, big data analytics in healthcare, healthcare data science, and data-driven health research, learning how to translate health datasets into meaningful insights that support better decisions and improved health outcomes. The course highlights practical applications of machine learning in health research, predictive analytics in healthcare, public health data analytics, and digital health analytics to strengthen evidence-based practice.

Attendees gain a clear understanding of how AI healthcare analytics and medical big data analytics enhance disease detection, monitoring, research quality, treatment planning, and health system performance. Practical examples are used to illustrate real use-cases involving health informatics with AI, AI for epidemiology, and clinical data analytics training. By the end of the course, participants will be able to assess, interpret, and apply AI and big data techniques to health research and public health challenges using structured, method-driven learning.

Target Audience

- Public health professionals
- Clinical researchers
- Health data analysts and data scientists
- Health informatics teams
- Epidemiologists
- Government health officers
- Research coordinators
- Healthcare strategy and planning teams

Targeted Organizational Departments

- Public health departments
- Clinical research units
- Healthcare analytics departments
- Health informatics and IT transformation
- Epidemiology and surveillance teams
- Digital health and innovation units
- Research and development divisions

These benefit from AI in health research, big data analytics in healthcare, healthcare data science, and public health data analytics.

Targeted Industries

- Health ministries
- Public health agencies
- Hospitals and healthcare systems
- Pharmaceutical and biotechnology companies
- Insurance and health financing
- Clinical research organizations
- Universities and research institutes
- Digital health and med-tech companies

Course Offerings

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

- Apply AI in health research for better data interpretation
- Use big data analytics in healthcare for advanced decision-making
- Utilize predictive analytics in healthcare and machine learning in health research
- Conduct data-driven health research and public health data analytics
- Implement clinical data analytics training methods for research teams
- Apply digital health analytics and health informatics with AI
- Evaluate medical big data analytics and integrate findings into research processes



Training Methodology

The course uses case studies, scenario analysis, group work, and structured exercises focused on AI in health research, big data analytics in healthcare, predictive analytics in healthcare, and digital health analytics. Participants engage in real-world problem-solving, guided discussions, and collaborative exploration of health datasets to strengthen analytical capabilities without requiring programming experience.

Course Toolbox

- AI and big data health research use-case summaries
 - Templates for analysis and reporting
 - Checklists for research readiness
 - Structured frameworks for data-driven health research
- Note: Tools are not provided; participants receive insights and examples only.*

Course Agenda

Day 1: Foundations of AI and Big Data in Health Research

- **Topic 1:** Introduction to AI in health research and data-driven health research
- **Topic 2:** Big data analytics in healthcare: foundations and applications
- **Topic 3:** Healthcare data science fundamentals
- **Topic 4:** Public health data analytics and population-level insights
- **Topic 5:** Digital health analytics and mobile health data
- **Reflection & Review:** How AI and big data are reshaping modern health research

Day 2: Applied AI for Clinical and Public Health Research

- **Topic 1:** AI healthcare analytics for clinical decision support
- **Topic 2:** Predictive analytics in healthcare and risk modeling
- **Topic 3:** Machine learning in health research for pattern detection
- **Topic 4:** AI for epidemiology and surveillance systems
- **Topic 5:** Medical big data analytics for advanced research interpretation
- **Reflection & Review:** The impact of AI and analytics on clinical and public health quality



Day 3: Data Engineering and Health Informatics

- **Topic 1:** Healthcare data preparation, integration, and preprocessing
- **Topic 2:** Health informatics with AI for improved interoperability
- **Topic 3:** Managing structured and unstructured health data
- **Topic 4:** Digital transformation using big data health research methods
- **Topic 5:** Clinical data analytics training for research teams
- **Reflection & Review:** Strengthening research outcomes through better data management

Day 4: Advanced Analytical Techniques in Health Research

- **Topic 1:** Predictive modeling and forecasting for health systems
- **Topic 2:** Evaluating AI models and ensuring reliability in healthcare analytics
- **Topic 3:** Public health data analytics for disease trends and early warnings
- **Topic 4:** Digital health analytics for real-time and wearable data
- **Topic 5:** Advanced AI and big data applications in medical research
- **Reflection & Review:** Key challenges and opportunities in advanced analytics

Day 5: Implementation, Future Trends, and Strategic Integration

- **Topic 1:** Strategic integration of AI and big data in healthcare organizations
- **Topic 2:** Practical applications of machine learning in health research
- **Topic 3:** Predictive analytics in healthcare operations and planning
- **Topic 4:** AI for health systems and future public health innovation
- **Topic 5:** Building long-term data-driven research and performance frameworks
- **Reflection & Review:** Final integration of course concepts and future roadmap

FAQ

What specific qualifications or prerequisites are needed for participants before enrolling in the course?

Participants benefit from having basic knowledge of health systems, research concepts, or data interpretation. No programming or AI background is required.



How long is each day's session, and is there a total number of hours required for the entire course?

Each day's session lasts around 4–5 hours. The full course spans approximately 20–25 hours over five days.

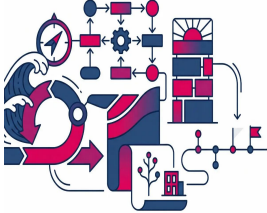
Is AI reliable enough to be used in health research and public health analysis?

AI strengthens reliability by analyzing large, complex datasets and uncovering hidden patterns. When combined with expert interpretation and proper validation, AI significantly enhances research accuracy and decision-making.

How This Course is Different

This course is designed specifically for health-sector professionals who need to understand AI and big data analytics without requiring programming expertise. It focuses on applying AI in health research, predictive analytics in healthcare, healthcare data science, and public health data analytics through real-world scenarios and structured frameworks. Participants learn exactly how to use AI healthcare analytics, health informatics with AI, and medical big data analytics to solve practical challenges in clinical research, hospital decision-making, and public health analysis. The program emphasizes clarity, applicability, and measurable outcomes, offering insights that can be used immediately in research environments, ministries, hospitals, and global health organizations.

Training Course Categories



Agile PM and Project Management Training Courses



Certified Courses By International Bodies



Communication & Public Relations Training Courses

Communication and Public Relations Training Courses



Data Analytics Training and Data Science Courses



Environment & Sustainability Training Courses



Finance and Accounting Training Courses



Governance, Risk and Compliance Training Courses



HR TRAINING & DEVELOPMENT

Human Resources Training and Development Courses



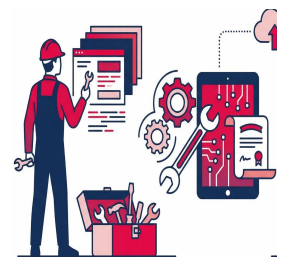
IT Security Training & IT Training Courses



Leadership and Management Training Courses



Legal Training, Procurement and Contracting Courses



Maintenance Training and Engineering Training Courses

Training Course Categories



Marketing, Customer Relations, and Sales Courses



Occupational Health, Safety and Security Training Courses



Personal & Self-Development Training Courses



Quality and Operations Management Training Courses



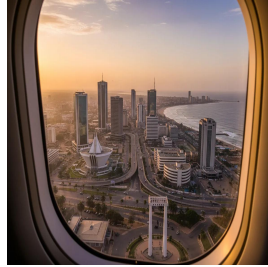
Secretarial and Administration Training Courses



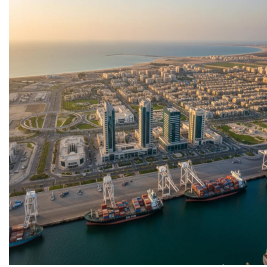
Training Cities



Abu Dhabi - UAE



Accra - Ghana



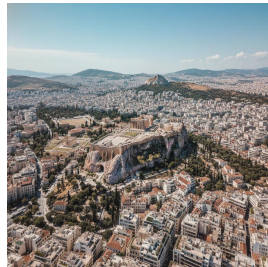
Al Jubail - Saudi Arabia



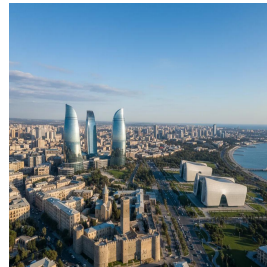
Amman - Jordan



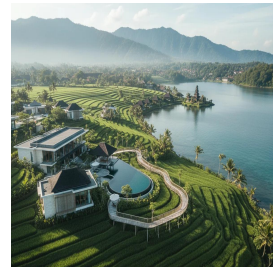
Amsterdam - Netherlands



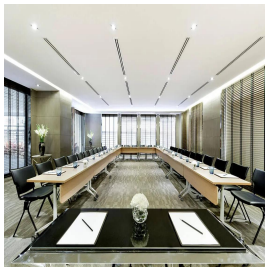
Athens - Greece



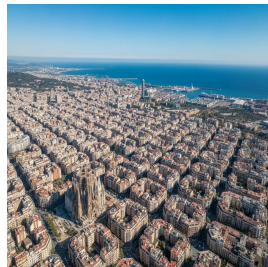
Baku - Azerbaijan



Bali - Indonesia



Bangkok - Thailand



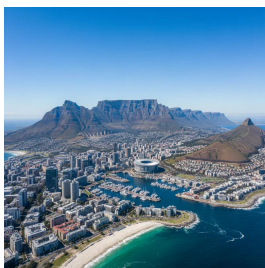
Barcelona - Spain



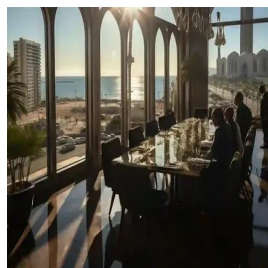
Berlin - Germany



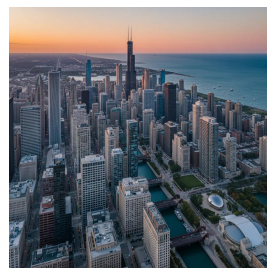
Cairo - Egypt



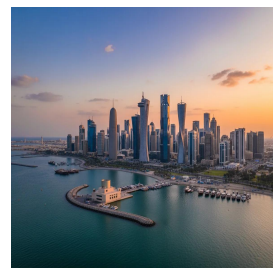
Cape town - South Africa



Casablanca - Morocco



Chicago - USA



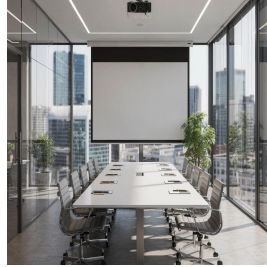
Doha - Qatar



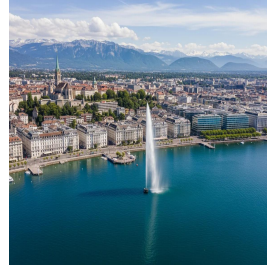
Training Cities



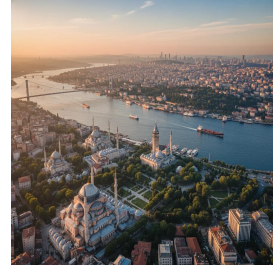
Dubai - UAE



Frankfurt - Germany



Geneva - Switzerland



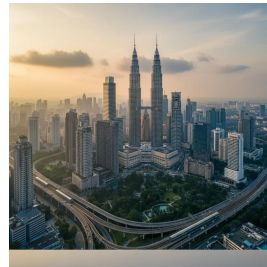
Istanbul - Turkey



Jakarta - Indonesia



Johannesburg - South Africa



Kuala Lumpur - Malaysia



Kuwait - Kuwait



Langkawi - Malaysia



Lisbon - Portugal



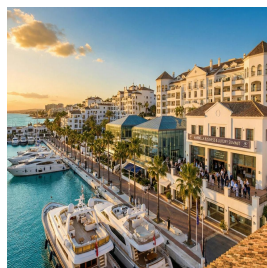
London - UK



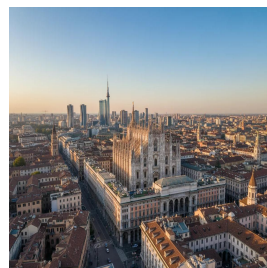
Madrid - Spain



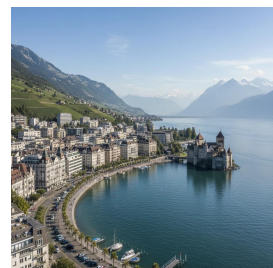
Manama - Bahrain



Marbella - Spain



Milan - Italy



Montreux - Switzerland



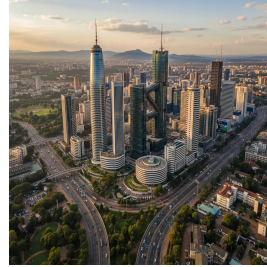
Training Cities



Munich - Germany



Muscat - Oman



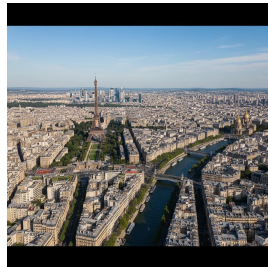
Nairobi - Kenya



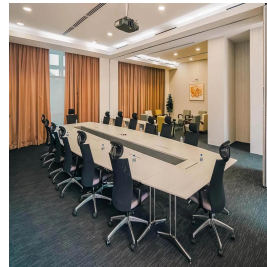
New York - USA



Nice - France



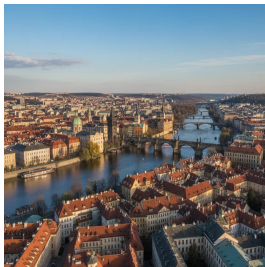
Paris - France



Phuket - Thailand



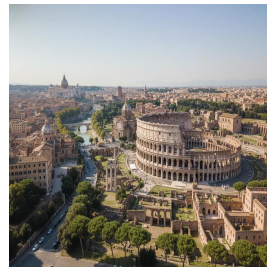
Porto - Portugal



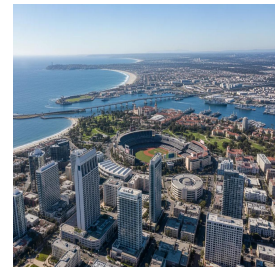
Prague - Czech Republic



Riyadh - Saudi Arabia



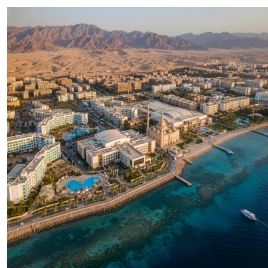
Rome - Italy



San Diego - USA



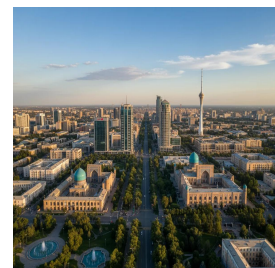
Seoul - South Korea



Sharm El-Sheikh - Egypt



Singapore - Singapore



Tashkent - Uzbekistan



Training Cities



Tbilisi - Georgia



Tokyo - Japan



Toronto - Canada



Trabzon - Turkey



Vienna - Austria



Zanzibar - Tanzania



**Zoom - Online
Training**

WHO WE ARE

Agile Leaders is a renowned training center with a team of experienced experts in vocational training and development. With 20 years of industry experience, we are committed to helping executives and managers replace traditional practices with more effective and agile approaches.

OUR VISION

We aspire to be the top choice training provider for organizations seeking to embrace agile business practices. As we progress towards our vision, our focus becomes increasingly customer-centric and agile.

OUR MISSION

We are dedicated to developing value-adding, customer-centric agile training courses that deliver a clear return on investment. Guided by our core agile values, we ensure our training is actionable and impactful.

WHAT DO WE OFFER

At Agile Leaders, we offer agile, bite-sized training courses that provide a real-life return on investment. Our courses focus on enhancing knowledge, improving skills, and changing attitudes. We achieve this through engaging and interactive training techniques, including Q&As, live discussions, games, and puzzles.



AGILE LEADERS
Training Center

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