Artificial Intelligence in Healthcare Training Course

Professional Development Training Course Outline

Category	Public Health	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Artificial Intelligence (AI) is transforming the global healthcare industry by enabling predictive analytics, precision medicine, clinical decision support, medical imaging automation, robotic surgery, digital therapeutics, healthcare cybersecurity, and personalized patient care. Modern healthcare organizations are rapidly adopting Machine Learning (ML), Deep Learning, Natural Language Processing (NLP), Generative AI, Computer Vision, and Big Data Analytics to improve diagnosis accuracy, reduce operational costs, enhance patient engagement, and accelerate drug discovery. AI-powered healthcare systems are now widely used in hospitals, pharmaceutical companies, diagnostic laboratories, telemedicine platforms, and healthcare startups to optimize workflows and improve clinical outcomes.

Artificial Intelligence in Healthcare Training Course is designed to provide healthcare professionals, IT specialists, researchers, and business leaders with practical knowledge of cutting-edge AI technologies used in modern medical environments. This industry-focused program covers AI-driven healthcare innovation, smart hospitals, electronic health records (EHR), AI ethics, healthcare automation, medical data analytics, virtual healthcare assistants, wearable health technologies, and AI-powered patient monitoring systems. Participants will gain hands-on exposure to real-world healthcare case studies, industry applications, and emerging trends shaping the future of digital healthcare transformation.

Programme Curriculum

Artificial Intelligence in Healthcare Training Course

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Course Duration

5 days

Course Objectives

1. Understand the fundamentals of Artificial Intelligence in Healthcare
2. Learn Machine Learning Algorithms for healthcare analytics
3. Explore Deep Learning in Medical Imaging
4. Implement Predictive Healthcare Analytics
5. Understand Generative AI for Clinical Applications
6. Analyze Electronic Health Records (EHR) using AI
7. Learn Natural Language Processing (NLP) in Healthcare
8. Develop knowledge of AI-powered Telemedicine Solutions
9. Understand Healthcare Data Security and AI Cybersecurity
10. Explore Precision Medicine and Personalized Healthcare
11. Learn applications of Computer Vision in Diagnostics
12. Understand AI Ethics, Governance, and Regulatory Compliance
13. Build real-world solutions using Healthcare Automation and Intelligent Systems

Target Audience

1. Healthcare Professionals
2. Doctors and Physicians
3. Hospital Administrators
4. Medical Researchers
5. Healthcare IT Professionals
6. Data Analysts and AI Engineers
7. Pharmaceutical and Biotechnology Professionals
8. Students and Academic Researchers

Course Modules

Module 1: Introduction to AI in Healthcare

- Fundamentals of Artificial Intelligence
- Evolution of Digital Healthcare
- AI Applications in Hospitals

- Smart Healthcare Ecosystem
- Future Trends in AI Healthcare
- **Case Study:** AI adoption in smart hospitals for patient workflow optimization

Module 2: Machine Learning for Healthcare Analytics

- Supervised and Unsupervised Learning
- Healthcare Predictive Modeling
- Disease Risk Prediction
- AI-based Patient Segmentation
- Healthcare Data Visualization
- **Case Study:** Predicting diabetes risk using machine learning models

Module 3: Deep Learning and Medical Imaging

- Deep Learning Fundamentals
- Computer Vision in Healthcare
- AI in Radiology and Pathology
- Image Recognition Techniques
- Medical Image Processing
- **Case Study:** Detecting cancer using AI-powered imaging systems

Module 4: Natural Language Processing in Healthcare

- NLP Fundamentals
- Clinical Text Analytics
- AI Chatbots in Healthcare
- Speech Recognition in Medical Systems
- Sentiment Analysis for Patient Feedback
- **Case Study:** AI virtual assistants for patient engagement and appointment management

Module 5: Predictive Analytics and Smart Healthcare

- Predictive Healthcare Models
- Real-time Patient Monitoring
- AI in ICU Monitoring Systems
- Healthcare Forecasting Techniques
- Wearable Healthcare Technologies
- **Case Study:** Predicting cardiac arrest risks using wearable devices

Module 6: AI in Drug Discovery and Precision Medicine

- AI-driven Drug Discovery
- Genomics and Personalized Medicine
- Precision Healthcare Applications
- Clinical Trial Optimization
- Pharmaceutical AI Innovations
- **Case Study:** Accelerating vaccine research using AI algorithms

Module 7: Healthcare Automation, Ethics, and Security

- Robotic Process Automation (RPA)

- AI Ethics in Healthcare
- HIPAA and Healthcare Compliance
- Healthcare Cybersecurity
- Responsible AI Governance
- **Case Study:** Preventing healthcare data breaches with AI security systems

Module 8: Generative AI and Future Healthcare Technologies

- Generative AI in Healthcare
- Digital Twins in Medicine
- AI-powered Healthcare Assistants
- Smart Diagnostics and Automation
- Future of Intelligent Healthcare Systems
- **Case Study:** Generative AI for automated clinical documentation

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com