زراعة ذكية بتقنية الذكاء الاصطناعي في الزراعة

Duration: 5 Days

Language: ar

Course Code: PI2 - 129

Objective

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

- .Understand the core concepts of AI in agricultural contexts
- .Apply predictive models for crop yield estimation and disease forecasting
- .Analyze farm data from sensors, drones, and satellite imagery
- .Implement AI solutions for irrigation, fertilization, and pesticide optimization
- .Integrate smart agriculture tools with IoT platforms and farm management systems
- .Address environmental, ethical, and data privacy challenges in agri-tech
- .Design and plan AI-enabled strategies for precision farming

Audience

:This course is ideal for

- .Agronomists and agricultural engineers
- .Data scientists and AI practitioners working in agriculture
- .Farm owners and agritech entrepreneurs
- .Agricultural policy makers and sustainability officers
- .Researchers and students in environmental technology or agricultural science
- .Technologists developing AI or IoT-based solutions for rural sectors

Training Methodology

The course includes instructor-led presentations, hands-on labs with sample agricultural datasets, case study analysis, and solution design workshops. Participants will build basic AI models, explore farm analytics platforms, and collaborate on scenario-based exercises to reinforce .learning

Summary

As global demand for food increases and climate patterns grow more unpredictable, agriculture is undergoing a digital transformation. Artificial Intelligence (AI) is emerging as a critical tool in smart farming—offering solutions for precise crop forecasting, efficient resource use, and data-.driven farm management

This course provides a practical and strategic introduction to AI applications in agriculture. Participants will explore how machine learning, computer vision, and predictive analytics can be used to improve crop yields, reduce waste, and optimize the use of water, fertilizers, and energy. From satellite data to sensor integration, this program equips professionals with the skills to implement smart agriculture systems that are sustainable, scalable, and responsive to real-world .challenges

Course Content & Outline

Section 1: AI in Agriculture – Opportunities and Impact

- .The role of AI in addressing modern agricultural challenges
- .Overview of smart farming technologies: sensors, drones, satellites
- .From manual to predictive agriculture: how AI shifts decision-making
- .Use cases: crop forecasting, livestock health, climate adaptation
- .Global trends and innovations in agri-tech

Section 2: Crop Forecasting and Predictive Modeling

- .Machine learning techniques for crop yield prediction
- .Data collection from soil sensors, weather feeds, and historical yields
- .Identifying disease and pest outbreaks with AI classifiers
- .Using time-series analysis for season planning and harvesting
- .Workshop: Build a basic crop prediction model using training datasets

Section 3: Optimizing Resources with AI Tools

- .AI in irrigation: predicting water needs and scheduling precision irrigation
- .Fertilizer usage optimization using soil condition analysis
- .AI-powered pest and weed detection through image classification
- .Reducing input waste and maximizing efficiency with predictive analytics
- .Case study: Smart greenhouse management with AI feedback systems

Section 4: Integrating AI with Farm Systems

- .Introduction to IoT devices and remote sensing in agriculture
- .(Connecting AI models with farm management platforms (FMS
- .Real-time monitoring and control using dashboards and alert systems
- .Automation of field operations based on AI insights
- .Demo: Simulating a smart farm setup using open-source tools

Section 5: Sustainability, Ethics, and Future Directions

- .Ensuring sustainability through precision resource use
- .Ethical concerns in data ownership and access for farmers
- .Challenges of AI adoption in rural and developing regions
- .The future of autonomous farming and robotics in agriculture
- .Final project: Present a smart agriculture plan using AI tools for a chosen crop or region

Certificate Description

عند إتمام هذه الدورة التدريبية بنجاح، سيحصل المشاركون على شهادة إتمام التدريب من Holistique Training. وبالنسبة للذين يحضرون ويكملون الدورة التدريبية عبر الإنترنت، سيتم تزويدهم بشهادة إلكترونية (e-Certificate) من Holistique Training.

شهادات Holistique Training معتمدة من المجلس البريطاني للتقييم (BAC) وخدمة اعتماد التطوير المهني

المستمر (CPD)، كما أنها معتمدة وفق معايير ISO 9001 وISO 21001 وISO 29993.

لهذه الدورة من خلال شهاداتنا، وستظهر هذه النقاط على شهادة إتمام (CPD) يتم منح نقاط التطوير المهني المستمر واحدة عن كل ساعة CPD يتم منح نقطة CPD، ووفقًا لمعايير خدمة اعتماد Holistique Training. التدريب من لأي دورة واحدة نقدمها حاليًا CPD حضور في الدورة. ويمكن المطالبة بحد أقصى قدره 50 نقطة.

Categories

الذكاء الاصطناعي وإدارة البيانات, الزراعة, التكنولوجيا

Related Articles

ما هي أهمية التعاطف في القيادة؟

في عالم القيادة الحديث، يتزايد الاهتمام بأهمية صفات القائد، ومن بين هذه الصفات الرئيسية تبرز بشكل لافت صفة التعاطف. فالتعاطف لا يقتصر على مجرد مظهر إنساني، بل يمتد ليكون أحد العوامل الحيوية في تحقيق القيادة الفعالة.