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MAINTENANCE AND ENGINEERING | ME-002

AI and IoT for Electrical Engineers: The Future of Smart Systems

UK
+44 33 000 111 90
info@informatech.co.uk
https://informatech.uk
63-66 Hatton Garden Hatton Garden
EC1N 8LE , London

NL
+31 85 74 444 46
info@infomatech.nl
https://infomatech.nl
Waarderweg 50 - 2031PB
Haarlem - Netherlands

Course content

Why Attend

Course Overview

This essential AI and IoT for Electrical Engineers Course is meticulously designed to address the digital transformation sweeping the electrical engineering field.

The convergence of Artificial Intelligence (AI) and the Internet of Things (IoT) is fundamentally reshaping the design, operation, and maintenance of electrical systems, creating a critical need for upskilled professionals.

This comprehensive AI Training Course For Electrical Engineers delves into how AI algorithms drive predictive analytics and energy optimization, while IoT networks enable real-time data acquisition from sensors and intelligent devices. Participants will gain practical insights into developing and managing smart grids, implementing AI-driven fault detection systems, and leveraging IoT Course for Electrical Engineers principles for enhanced monitoring.

The curriculum is structured to empower engineers to harness these disruptive technologies, leading to significant improvements in system efficiency, reliability, and automation for future-ready electrical infrastructure.

Course Objectives

By the end of this training course, participants will be able to integrate AI and IoT solutions into modern electrical systems. This course will provide the foundational knowledge and practical skills required to excel in the era of smart technology.

- Understand the core principles of AI and IoT and their transformative impact on electrical engineering.
- Explore AI-driven automation and intelligent decision-making processes for electrical systems.
- Implement robust, IoT-enabled monitoring solutions utilizing real-time data analytics.
- Develop and apply predictive maintenance strategies powered by AI algorithms and IoT sensor data.
- Optimize energy management and distribution through AI-powered smart grids and IoT sensors.
- Enhance industrial automation by integrating AI and IoT within control systems.

Course content

Course Objectives

• Gain hands-on experience with practical AI and IoT applications relevant to electrical engineering challenges.

Designed for

This AI and IoT for Electrical Engineers Course is tailored for professionals seeking to lead innovation in their organizations. It is ideally suited for individuals who design, maintain, or optimize electrical and automated systems.

• Electrical Engineers and Technicians

• Power System and Energy Professionals

• Automation and Control Engineers

• Industrial and Manufacturing Engineers

• Smart Grid and Renewable Energy Specialists

• Professionals aiming to integrate AI and IoT into electrical systems

Learning Methods

This AI Training Course For Electrical Engineers employs a dynamic blend of proven adult learning techniques to ensure maximum comprehension and skill retention. The session will combine interactive, lecture-led presentations with collaborative group discussions to explore core concepts of AI and IoT.

A significant focus is placed on practical, hands-on exercises that allow participants to apply AI algorithms and IoT data interpretation to realistic electrical engineering scenarios. This method reinforces theoretical knowledge by solving industry-specific problems, ensuring delegates can immediately translate their learning into professional practice.

The IoT Course for Electrical Engineers component is delivered through case studies and simulations, providing a comprehensive and engaging educational experience.

Course outline

Day One: Introduction to AI and IoT in Electrical Engineering

Course content

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• Overview of AI and IoT technologies

• How AI and IoT are transforming electrical engineering

• Key components of smart electrical systems

• AI-powered data processing and IoT-enabled connectivity

• Case studies of AI and IoT applications in electrical systems

Day Two: AI for Smart Electrical Systems and Automation

• AI-driven automation in power and electrical systems

• Machine learning algorithms for electrical engineering

• AI-powered control systems and real-time decision-making

• AI in fault detection and system diagnostics

• Hands-on session: Implementing AI in electrical automation

Day Three: IoT-Enabled Monitoring and Predictive Maintenance

• IoT sensors and data collection for electrical equipment

• Real-time monitoring and remote diagnostics using IoT

• Predictive maintenance with AI and IoT integration

• Smart asset management and failure prevention strategies

• Hands-on session: IoT-based monitoring and alert systems

Day Four: Smart Grids, Energy Management, and AI Optimization

• AI and IoT applications in smart grid technology

• Energy efficiency optimization using AI algorithms

• AI-driven load forecasting and energy distribution

• IoT-enabled renewable energy integration

• Hands-on session: AI-powered energy analytics and management

Course content

Course outline

Day Five: Future Trends and Implementation Strategies

- Emerging trends in AI and IoT for electrical engineering
- AI in cybersecurity for electrical and power systems
- Challenges in adopting AI and IoT in electrical projects
- Roadmap for implementing AI and IoT in electrical networks
- Final case study and group discussion on future-ready smart systems

Seminar dates

Available seminar dates

Live dates and pricing for AI and IoT for Electrical Engineers: The Future of Smart Systems generated from the course details page.

Date	Location	Format	Fee
Dates on request	Venue on request	Classroom	**Contact us**

Live online option	Online delivery is available at €1,850.-.