AI+ Robotics

Category: AI, Data & Analytics | **Vendor:** AI Certs

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format:	Instructor Led - Online
Certification:	AI+ Robotics
Related Exam:	AI+ Robotics

Course Overview

The AI+ Robotics course program provides a transformative journey into the dynamic intersection of Artificial Intelligence (AI) and Robotics. This comprehensive course begins with foundational concepts, exploring the history and evolution of robotics, and introducing AI's role in enhancing robotic capabilities. Participants will delve into machine learning, deep learning, and the role of neural networks in robotics, gaining a robust understanding of both AI and robotics mechanics. The curriculum includes hands-on activities and real-world case studies, enabling participants to build practical skills. Modules cover autonomous systems, intelligent agents, and key development platforms like ROS (Robot Operating System). The course also emphasizes ethical considerations, safety standards, and policy frameworks, ensuring responsible AI and robotics integration. By the end of the program, participants will be well-equipped with theoretical knowledge and practical expertise to lead innovation in the ever-evolving AI and robotics landscape.

About This Course

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Who Should Attend

Network Administrator

Prerequisites & Entry Requirements

General Prerequisites:

Familiarity with basic concepts of Artificial Intelligence (AI), without the need for technical expertise., Openness to generate innovative ideas and concepts, leveraging AI tools effectively in the process., Ability to analyze information critically and evaluate the implications of AI and Robotics technologies., Readiness to engage in problem-solving activities and apply AI techniques to real-world scenario.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

Course Objectives

- Gain a foundational understanding of robotics, including its history, evolution, and the role of AI in robotics.
- Explore and implement deep learning algorithms and reinforcement learning techniques in robotics applications.
- Develop practical skills through hands-on sessions and real-world case studies, focusing on autonomous systems and intelligent agents.
- Understand and apply ethical considerations, safety standards, and policy frameworks in AI-driven robotics.
- Stay updated on emerging trends and technologies shaping the future of AI and robotics.

Detailed Course Outline

- Introduction to Robotics and Artificial Intelligence (AI)

  Overview of Robotics: Introduction, History, Evolution, and Impact Introduction to Artificial Intelligence (AI) in Robotics Fundamentals of Machine Learning (ML) and Deep Learning Role of Neural Networks in Robotics

- Understanding AI and Robotics Mechanics

  Components of AI Systems and Robotics Deep Dive into Sensors, Actuators, and Control Systems Exploring Machine Learning Algorithms in Robotics

- Autonomous Systems and Intelligent Agents

  Introduction to Autonomous Systems Building Blocks of Intelligent Agents Case Studies: Autonomous Vehicles and Industrial Robots Key Platforms for Development: ROS (Robot Operating System)

- AI and Robotics Development Frameworks

  Python for Robotics and Machine Learning TensorFlow and PyTorch for AI in Robotics Introduction to Other Essential Frameworks

- Deep Learning Algorithms in Robotics

  Understanding Deep Learning: Neural Networks, CNNs Robotic Vision Systems: Object Detection, Recognition Hands-on Session: Training a CNN for Object Recognition Use-case: Precision Manufacturing with Robotic Vision

- Reinforcement Learning in Robotics

  Basics of Reinforcement Learning (RL) Implementing RL Algorithms for Robotics Hands-on Session: Developing RL Models for Robots Use-case: Optimizing Warehouse Operations with RL

- Generative AI for Robotic Creativity

  Exploring Generative AI: GANs and Applications Creative Robots: Design, Creation, and Innovation Hands-on Session: Generating Novel Designs for Robotics Use-case: Custom Manufacturing with AI

- Natural Language Processing (NLP) for Human-Robot Interaction

  Introduction to NLP for Robotics Voice-Activated Control Systems Hands-on Session: Creating a Voice-command Robot Interface Case-Study: Assistive Robots in Healthcare

- Practical Activities and Use-Cases

  Hands-on Session-1: Building AI Models for Object Recognition using Python Programming Hands-on Session-2: Path Planning, Obstacle Avoidance, and Localization Implementation using Python Programming Hands-on Session-3: PID Controller Implementation using Python programming Use-cases: Precision Agriculture, Automated Assembly Lines

- Emerging Technologies and Innovation in Robotics

  Integration of Blockchain and Robotics Quantum Computing and Its Potential

- Exploring AI with Robotic Process Automation

  Understanding Robotic Process Automation and its use cases Popular RPA Tools and Their Features Integrating AI with RPA

- AI Ethics, Safety, and Policy

  Ethical Considerations in AI and Robotics Safety Standards for AI-Driven Robotics Discussion: Navigating AI Policies and Regulations

- Innovations and Future Trends in AI and Robotics

  Latest Innovations in Robotics and AI Future of Work and Society: Impact of AI and Robotics

- Reinforcement Learning in Robotics

  Basics of Reinforcement Learning (RL) Implementing RL Algorithms for Robotics Hands-on Session: Developing RL Models for Robots Use-case: Optimizing Warehouse Operations with RL

- Generative AI for Robotic Creativity

  Exploring Generative AI: GANs and Applications Creative Robots: Design, and Innovation Hands-on Session: Generating Novel Designs for Robotics Use-case: Custom Manufacturing with AI

- Practical Activities and Use-Cases

  Hands-on Session-1: Building AI Models for Object Recognition using Python Programming Hands-on Session-2: Path Planning, and Policy

    Ethical Considerations in AI and Robotics Safety Standards for AI-Driven Robotics Discussion: Navigating AI Policies and Regulations

  - Innovations and Future Trends in AI and Robotics

    Latest Innovations in Robotics and AI Future of Work and Society: Impact of AI and Robotics

  - Natural Language Processing (NLP) for Human-Robot Interaction

    Introduction to NLP for Robotics Voice-Activated Control Systems Hands-on Session: Creating a Voice-command Robot Interface Case-Study: Assistive Robots in Healthcare

  - Introduction to Robotics and Artificial Intelligence (AI)

    Overview of Robotics: Introduction, Recognition Hands-on Session: Training a CNN for Object Recognition Use-case: Precision Manufacturing with Robotic Vision

  , Introduction to Robotics and Artificial Intelligence (AI), Understanding AI and Robotics Mechanics, Autonomous Systems and Intelligent Agents, AI and Robotics Development Frameworks, Deep Learning Algorithms in Robotics, Reinforcement Learning in Robotics, Generative AI for Robotic Creativity, Natural Language Processing (NLP) for Human-Robot Interaction, Practical Activities and Use-Cases, Emerging Technologies and Innovation in Robotics, Exploring AI with Robotic Process Automation, AI Ethics, and Policy, Innovations and Future Trends in AI and Robotics, Optional Module: AI Agents for Robotics

Certification Path

AI+ Robotics

Exam: AI+ Robotics

Additional Course Details

Nexus Humans AI+ Robotics training program is a workshop that presents an invigorating mix of sessions, lessons, and masterclasses meticulously crafted to propel your learning expedition forward. This immersive bootcamp-style experience boasts interactive lectures, hands-on labs, and collaborative hackathons, all strategically designed to fortify fundamental concepts.

Guided by seasoned coaches, each session offers priceless insights and practical skills crucial for honing your expertise. Whether you're stepping into the realm of professional skills or a seasoned professional, this comprehensive course ensures you're equipped with the knowledge and prowess necessary for success.

While we feel this is the best course for the AI+ Robotics course and one of our Top 10 we encourage you to read the course outline to make sure it is the right content for you.

Additionally, private sessions, closed classes or dedicated events are available both live online and at our training centres in Dublin and London, as well as at your offices anywhere in the UK, Ireland or across EMEA.

Frequently Asked Questions

Q: What delivery options are available for AI+ Robotics?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: What certification does this course prepare me for?

The AI+ Robotics course helps prepare you for the AI+ Robotics certification path.

Q: Which exam does this course prepare me for?

This course prepares you for the AI+ Robotics official exam. You can take this exam at any exam center across United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online wherever you are located.

Q: How many CPD hours does this course provide?

The 5-day AI+ Robotics course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the AI+ Robotics training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for AI+ Robotics?

Yes, we provide corporate training, dedicated training, and closed classes for AI+ Robotics. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: AI+ Robotics, AI Certs, vILT

Q: Why choose Nexus Human for AI+ Robotics?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your AI+ Robotics training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

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