

# Deep Learning and Generative Al Practices

# H45WXS

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Format	ILT, VILT
Duration	5 days
Course ID	H45WXS

This course teaches you how to create AI-enabled products, prototypes, proofs-of-concept, and how to use industry-grade deep learning to solve complex AI tasks. It also covers how to use generative AI and how to use it to create effective prompts.

Through comprehensive, hands-on virtual labs, you gain advanced AI knowledge using real world projects to help expand your existing skills and how to engineer a wide range of AI scenarios.

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#### **Audience**

This course is ideal for technical students and professionals, entrepreneurs, and developers from all industries.

#### **Prerequisites**

Before attending this course, you should have a working knowledge of Python fundamentals.

#### **Course objectives**

After completing this course, you should be able to:

- Build a deep learning solution or service
- Design and implement AI solutions for business problems
- Complete a real-world AI project
- Make informed AI decisions and reduce external dependencies

#### Certifications and related exams

This is an exam-based course, which includes a two-hour exam with 50 questions. Students must score a minimum of 70% to pass the course.

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### **Detailed course outline**

Module 1: Introduction to Data Science	<ul> <li>Objectives and getting started with Al and Al tools</li> <li>Al application areas: natural languages, computer vision, and generative Al</li> <li>The Al ecosystem and current leaders in the field</li> </ul>	<ul> <li>Building your first AI model with deep learning</li> <li>Use cases and case studies on how others are implementing AI profitably</li> <li>Ethical and responsible AI usage</li> </ul>
Module 2: How to Build a Deep Learning Model?	<ul> <li>Designing and implementing neural network layers</li> <li>Overview and understanding of deep learning models</li> </ul>	<ul> <li>Strategies for improving Al models</li> <li>From data to insights—structured and unstructured models</li> </ul>
Module 3: Introduction to Generative AI	<ul> <li>What is generative AI and how to use it?</li> <li>Getting started with enterprise OpenAI Studio</li> <li>All about hallucinations and other mystical generative AI concepts</li> </ul>	<ul> <li>Customize generative AI for your own tasks</li> <li>Building a generative AI use case</li> </ul>
Module 4: Prompt Engineering	<ul> <li>Prompt engineering types and utilities</li> <li>Context and examples: tuning, fine-tuning, and customizing AI for your business use case</li> </ul>	<ul><li>Retrieval augmented generation</li><li>Working with private data</li><li>Al-enabled chatbots</li></ul>
Module 5: Building Your Al Project	<ul> <li>Defining and breaking down a problem statement</li> <li>Identifying the machine learning and AI use cases</li> </ul>	<ul> <li>Building and testing your solution</li> <li>Deployment options and end-user concerns</li> <li>Data, compliance, and governance</li> </ul>
Module 6: Building a Complete Solution	<ul><li>Solving real-world problems with AI</li><li>Building a deep learning API</li></ul>	<ul><li> Understanding containers and Docker</li><li> Data quality concerns and fixing challenges</li></ul>

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