AI+ Gaming

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

Duration: 1.00 hours (1 days) **0.8 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format:	vILT
Certification:	AI+ Gaming
Related Exam:	AI-GAM

Course Overview

The AI+ Gaming™ course explores how artificial intelligence transforms modern game design, development, and player engagement. It focuses on integrating AI into gameplay mechanics, procedural content generation, and adaptive systems. Participants gain hands-on experience implementing pathfinding, reinforcement learning, and dynamic difficulty systems. Real-world case studies from leading games illustrate how AI enhances creativity, storytelling, and interactivity.

About This Course

The AI+ Gaming™ course explores how artificial intelligence transforms modern game design, development, and player engagement. It focuses on integrating AI into gameplay mechanics, procedural content generation, and adaptive systems. Participants gain hands-on experience implementing pathfinding, reinforcement learning, and dynamic difficulty systems. Real-world case studies from leading games illustrate how AI enhances creativity, storytelling, and interactivity.

Prerequisites & Entry Requirements

General Prerequisites:

Basic Programming Skills – Comfortable with Python or similar languages.

Foundational Math Knowledge – Understanding of linear algebra and probability.

Intro to Machine Learning – Familiarity with ML concepts and algorithms.

Game Development Exposure – Experience with Unity or Unreal Engine basics.

Problem-Solving Mindset – Ability to approach challenges creatively and logically.

Learning Outcomes

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

Understand the role and evolution of AI in the gaming industry

Apply machine learning and reinforcement learning techniques in game environments

Design adaptive, data-driven, and player-personalized game systems

Implement AI algorithms for decision-making, pathfinding, and procedural generation

Evaluate ethical and design challenges in AI-powered games

Detailed Course Outline

Introduction to AI in Games

What is AI?

Evolution of AI in the Gaming Industry

Types of AI in Games

Benefits, Challenges, and Innovations in Game AI

Game Design Principles using AI

Understanding Game Mechanics and Player Experience

Role of AI in Gameplay and Narrative Design

Designing Game Environments for AI Interaction

AI-Driven Behavior vs Traditional Scripted Logic

Case Study: Case Study: Dynamic AI and Narrative Adaptation in Middle earth: Shadow of Mordor

Hands-On Exercise: Designing Adaptive NPC Behavior and Environment Interaction

Foundations of AI in Gaming

Core AI Concepts for Gaming

Search Algorithms and Pathfinding

AI Behavior Modeling and Procedural Content Generation (PCG)

Introduction to Machine Learning and Reinforcement Learning

Case Study: AI in Minecraft — Procedural Content Generation and Agent Navigation

Hands-On: Implementing A* Pathfinding and FSM for NPC Behavior

Reinforcement Learning Fundamentals

Core Concepts: States, Actions, Rewards, Policies, Q-Learning:

Exploration versus Exploitation in Learning Systems:

Overview of Deep Q Networks (DQN) and Policy Gradient Methods

Case Study: Reinforcement Learning in DeepMind’s AlphaGo

Hands-On: Train a Reinforcement Learning Model on OpenAI Gym’s GridWorld

Planning and Decision Making in Games

Minimax Algorithm and Alpha-Beta Pruning

Monte Carlo Tree Search (MCTS)

Applications in Board Games and Real-Time Strategy (RTS) Games

Case Study: Strategic AI in StarCraft II – Combining Planning Algorithms for Real-Time Strategy

Hands-on Implementation: Guides on implementing the Minimax algorithm for Tic-Tac-Toe

AI Techniques in 2D/3D Virtual Gaming Environments Basic

Overview of 2D and 3D Game Environments

Environment Representation Techniques

Navigation and Pathfinding in 2D/3D Spaces

Interaction and Behavior Systems in Virtual Environments

Case Study: Navigation and Interaction AI in The Legend of Zelda: Breath of the Wild

Hands-On: Building Basic Navigation and Interaction in 2D and 3D Game Environment

Adaptive Systems and Dynamic Difficulty

Adaptive Systems Overview

Dynamic Difficulty Adjustment (DDA) Principles

Adaptive Storytelling, Personalization, and Player Profiling

AI Techniques in Adaptive Systems

Implementation Strategies and Tools

Case Study: Dynamic Enemy Management and Replayability with Left 4 Dead’s AI Director

Hands-On: Developing an Adaptive Dynamic Difficulty System in Unity

Future of AI in Gaming

Generalist AI Agents and Transfer Learning

AI-Powered Game Design and Testing Tools

Ethical Considerations and AI Transparency

Emerging Technologies: VR/AR AI and AI in Esports Coaching

Capstone Project

Certification Path

AI+ Gaming

Exam: AI-GAM

Frequently Asked Questions

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

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+ Gaming course helps prepare you for the AI+ Gaming certification path.

Q: Which exam does this course prepare me for?

This course prepares you for the AI-GAM 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 1-day AI+ Gaming course provides up to 0.8 CPD hours of structured learning. CPD certificates can be provided upon request.

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

The training takes place over 1 day(s), with each day lasting approximately 1.00 hours including breaks for lunch and refreshments.

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

Yes, we provide corporate training, dedicated training, and closed classes for AI+ Gaming. 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+ Gaming, AI Certs, vILT

Q: Why choose Nexus Human for AI+ Gaming?

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+ Gaming 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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