AI+ Developer

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+ Developer
Related Exam:	AI+ Developer

Course Overview

AI+ Developer training program offers a comprehensive journey through the key domains of artificial intelligence, specifically tailored for developers. From mastering Python fundamentals to advanced concepts, mathematics, statistics, optimization techniques, and deep learning, this program equips developers with indispensable skills. The curriculum encompasses data pre-processing, exploratory data analysis, feature engineering, selection, and dimensionality reduction. Additionally, participants can specialize in NLP, computer vision, or reinforcement learning. The program also covers time series analysis, model explainability, and the intricacies of model deployment. Upon successful completion, you'll be awarded a certification acknowledging your proficiency in these pivotal artificial intelligence areas, positioning you as a well-prepared developer ready to tackle real-world AI challenges and innovations.

About This Course

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Who Should Attend

Programmer

Prerequisites & Entry Requirements

General Prerequisites:

Experience dabbling in coding, preferably in common languages like Python or Java., Basic understanding of Machine Learning and how computers process data., Introductory knowledge of Neural Networks and their foundational concepts., Familiarity with language processing tools and introductory chatbot concepts., Understanding of how AI processes and interprets images., Insight into AI learning techniques and continuous improvement methods., Experience or knowledge in deploying AI solutions and presenting them to an audience.", Familiarity with high school-level algebra and basic statistics is desirable., Understanding the basic programming concepts (variables, functions, and loops) and data structures (lists and dictionaries)., Fundamental knowledge of programming skills.

Learning Outcomes

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

Course Objectives

- Understand the essentials of AI and gain proficiency in Python for AI development.
- Learn the architectures of deep learning and neural networks and their applications.
- Explore various specialized AI applications across different industry sectors.
- Acquire knowledge about large language models, including GPT, and master the art of prompt engineering.
- Develop the skills to utilize AI tools, manage AI operations, and effectively deploy AI models in real-world scenarios.

Detailed Course Outline

- Natural Language Processing

  Text Preprocessing and Representation Text Classification Named Entity Recognition (NER) Question Answering (QA)

- Reinforcement Learning

  Introduction to Reinforcement Learning Q-Learning and Deep Q-Networks (DQNs) Policy Gradient Methods

- Cloud Computing in AI Development

  Cloud Computing for AI Cloud-Based Machine Learning Services

- Large Language Models

  Understanding LLMs Text Generation and Translation Question Answering and Knowledge Extraction

- Cutting-Edge AI Research

  Neuro-Symbolic AI Explainable AI (XAI) Federated Learning Meta-Learning and Few-Shot Learning

- AI Communication and Documentation

  Communicating AI Projects Documenting AI Systems Ethical Considerations

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- Foundations of Artificial Intelligence

  Introduction to AI Types of Artificial Intelligence Branches of Artificial Intelligence Applications and Business Use Cases

- Mathematical Concepts for AI

  Linear Algebra Calculus Probability and Statistics Discrete Mathematics

- Python for Developer

  Python Fundamentals Python Libraries

- Mastering Machine Learning

  Introduction to Machine Learning Supervised Machine Learning Algorithms Unsupervised Machine Learning Algorithms Model Evaluation and Selection

- Deep Learning

  Neural Networks Convolutional Neural Networks (CNNs) Recurrent Neural Networks (RNNs)

- Computer Vision

Image Processing Basics Object Detection Image Segmentation Generative Adversarial Networks (GANs)

- Reinforcement Learning

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- Optimization Techniques in Data Science

  Introduction to Optimization in Data Science Gradient Descent Stochastic Gradient Descent Adaptive Learning Rate Methods

- Introduction to Machine Learning

  Machine Learning Basics

- Introduction to Deep Learning

  Deep Learning Basics

- Introduction to Reinforcement Learning

  Reinforcement Learning Basics

- Evaluation Metrics

  Introduction to Evaluation Metrics in Machine Learning Classification Metrics Regression Metrics Importance of Multiple Metrics Choosing Metrics Based on Business Context Evaluating Metrics on Test Set

- Data Pre-Processing

Explanation of the Topics Data Cleaning Data Transformation Feature Engineering Feature Selection Data Reduction

- Exploratory Data Analysis (EDA) in Python

  Introduction to EDA in Python Importing and Loading Data Data Cleaning Univariate Analysis Bivariate and Multivariate Analysis Data Transformations and Encodings Identifying Outliers and Anomalies Tools for EDA in Python The Iterative Nature of EDA

- Feature Engineering

  Introduction to Feature Engineering Feature Creation Feature Selection Feature Extraction Feature Scaling Missing Value Imputation Discretization Feature Encoding

- Feature Selection

  Filter Methods Wrapper Methods Embedded Methods

- Dimensionality Reduction

  Introduction to Dimensionality Reduction Problems with High-Dimensional Data Benefits of Dimensionality Reduction Common Techniques Key Takeaways and Best Practices

- Data Visualization

  Introduction to Data Visualization Types of Data Visualization Categories of Visualizations Popular Types of Visualizations Key Takeaways and Best Practices

- Supervised Machine Learning Algorithms

  Introduction to Supervised Learning Algorithms Common Tasks in Supervised Learning Popular Algorithms

- Unsupervised Machine Learning Algorithms

  Introduction to Unsupervised Learning Algorithms Types of Unsupervised Learning Algorithms

- Boosting Algorithms

  AdaBoost Algorithm Explanation XGBoost Algorithm Explanation CatBoost Algorithm Explanation GradiendBoost Algorithm Explanation

- Working with Imbalanced Data

  Sampling Methods Algorithm Modifications

- Hyperparameter Tuning

Introduction to Hyperparameters Hyperparameter Tuning Techniques Challenges in Hyperparameter Tuning Strategies for Efficient Tuning Tools for Hyperparameter Tuning

- Timeseries

Introduction to Time Series Data Key Aspects of Time Series Analysis Stationarity and Autocorrelation Time Series Forecasting Time Series Models Visualization in Time Series Analysis Key Takeaways and Best Practices

- Deep Learning

Neural Networks Activation Function Loss Functions Optimizers Regularization Forward Propagation Backward Propagation Hyperparameter Tuning in Neural Networks

- Specialization

NLP Computer Vision Reinforcement Learning

- GenAI

LLMs-Text LLMs - Text to Image

- Explainable AI

Explanation of the Topics Explainable Modeling Model-Agnostic Methods Interactive Explanations Explainable Deep Learning Visual Explanations Natural Language Explanations

- Model Deployment

What is Model Deployment Key Steps in Deploying a Model Challenges with Model Deployment Best Practices

- Python Basics

Data Types Variables and Assignment Operators Control Flow Functions and Arguments Strings and Methods Data Structures Modules and Importing File I/O Exceptions and Error Handling

- Python Advanced

Object-Oriented Programming Decorators Generators and Iterators Lambda Functions Regular Expressions Debugging and Testing Multi-Processing & Multi-Threading Essential Libraries for Data Science Working with Databases API Development Package Creation and Distribution Performance Optimization and Profiling Design Patterns

- Mathematics for Machine Learning

Linear Algebra Matrix Operations Vector Spaces Eigenvectors and Eigenvalues Linear Transformations in Python Matrix Factorization Introduction to Tensor Operations in Linear Algebra

- Calculus

  Differential Calculus Integration in Python

- Probability for Data Science

  Probability Basics Calculating Basic Probabilities Probability Distributions (Normal, Binomial, Poisson) Conditional Probability Monte Carlo Simulation Central Limit Theorem Statistical Inference in Probability Probability in Machine Learning Algorithms Decision Making Under Uncertainty Real-world Applications of Probability in Data Science

- Statistics for Data Science

  Introduction to Statistics for Data Science Descriptive Statistics Probability and Distributions Statistical Inference

, Optional Module: AI Agents for Developers, Natural Language Processing, Reinforcement Learning, Cloud Computing in AI Development, Large Language Models, Cutting-Edge AI Research, AI Communication and Documentation, Foundations of Artificial Intelligence, Mathematical Concepts for AI, Python for Developer, Mastering Machine Learning, Deep Learning, Computer Vision, Optimization Techniques in Data Science, Introduction to Machine Learning, Introduction to Deep Learning, Introduction to Reinforcement Learning, Evaluation Metrics, Data Pre-Processing, Exploratory Data Analysis (EDA) in Python, Feature Engineering, Feature Selection, Dimensionality Reduction, Data Visualization, Supervised Machine Learning Algorithms, Unsupervised Machine Learning Algorithms, Boosting Algorithms, Working with Imbalanced Data, Hyperparameter Tuning, Timeseries, Specialization, GenAI, Explainable AI, Model Deployment, Python Basics, Python Advanced, Mathematics for Machine Learning, Calculus, Probability for Data Science, Statistics for Data Science

□□ Certification Path

AI+ Developer

Exam: AI+ Developer

Additional Course Details

Nexus Humans AI+ Developer 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+ Developer 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+ Developer?

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

Q: Which exam does this course prepare me for?

This course prepares you for the AI+ Developer 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+ Developer 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+ Developer 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+ Developer?

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

Q: Why choose Nexus Human for AI+ Developer?

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+ Developer training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

Professional Training & Development

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