Generative AI and LLMs Training Course

Explore the fundamentals of Generative AI and Large Language Models to unleash the potential of AI-driven content creation and decision-making processes.

AIML-102

Course Outcomes

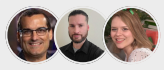
Professional, practical, & hands-on live instructor-led training

Start as a beginner and graduate as a certified professional, with the skills, experience, and job-search know how to get your career started.

Start Today

Potential Career Tracks

Software Developer | Machine Learning Engineer | Data Scientist | Product Manager in AI | AI Researcher | AI Solution Architect



Taught by Industry Veterans & World Class Instructors

Introduction to Generative AI and LLMs

Course Overview

Intellectual Point's Generative AI and Large Language Models (LLMs) Training Course presents cutting-edge education in artificial intelligence, focusing on generating human-like text and automating content creation processes. This course provides comprehensive knowledge of LLM architectures, including OpenAI's GPT models, and equips participants with the hands-on skills necessary to design, implement, and optimize AI-driven solutions. It balances theoretical understanding with practical exercises tailored for real-world applications, ensuring participants can leverage these powerful tools efficiently.

Within this training, you will dive into the core principles of AI and machine learning, unpack the mechanics behind LLMs, and explore their implementation for various use cases. By the end, you will apply your learning to develop AI applications, fine-tune models for specific tasks, and understand the ethical considerations in AI deployment.

Obtainable Skills

Understanding AI and Machine Learning Fundamentals | Ethical AI and Bias Mitigation | Designing and Implementing LLM Architectures | Model Fine-tuning and Optimization | Text Generation and Natural Language Processing | Data Preprocessing and Engineering | Evaluating AI Model Performance | Application of AI in Real-world Scenarios

Course Insights

Audience Profile

This course is perfect for beginners and professionals in technology, data science, and artificial intelligence who are keen to deepen their expertise in generative AI and large language models. It caters to individuals with a background in programming and data analysis, as well as software developers looking to integrate AI capabilities into their projects. Ideal participants include machine learning engineers, data scientists, AI enthusiasts, and innovators aspiring to harness the power of AI for business transformation. Additionally, this course attracts professionals interested in exploring AI ethics and the societal impacts of AI technologies.

Course Outcomes

By the end of this course, participants will:

1. Master the architecture and operation of generative models like GPT.
2. Develop the ability to program and fine-tune AI models for specific applications.
3. Gain proficiency in using leading AI platforms and tools to implement AI solutions.
4. Understand and apply ethical AI practices to ensure responsible AI deployment.
5. Achieve the NVIDIA Certified Generative AI and LLMs certification, validating your expertise.

Module by Module Learning *Outline*

6 Modules

Module 1: Introduction to AI and Machine Learning Fundamentals

Learning Objectives:

- Understand foundational AI concepts and the basics of machine learning.
- Recognize the significance of generative models in AI.

Topics Covered

Fundamentals of Artificial Intelligence:

- Key concepts in AI and machine learning.
- Differentiating between AI types: supervised, unsupervised, and reinforcement learning.

Introduction to Large Language Models:

- Overview of LLMs and their importance in AI.
- Understanding humanlike text generation principles.

Module 2: Designing and Implementing LLM Architectures

Learning Objectives:

- Explore the architecture of large language models, including GPT.
- Learn to design and implement LLMs for various applications.

Topics Covered

Architecture of GPT and Similar Models:

- Components and flow of LLMs.
- Key innovations and breakthroughs in generative AI.

Implementing a Basic LLM:

- Steps for implementing LLMs using popular AI frameworks.
- Challenges and solutions in model design.

Module 3: Text Generation and Natural Language Processing

Learning Objectives:

- Master text generation techniques using LLMs.
- Utilize natural language processing tools effectively.

Topics Covered

Techniques for Text Generation:

- Methods for generating coherent and contextually relevant text.
- Applications of text generation in business and technology.

Natural Language Processing Tools:

- Essential NLP tools and libraries for text analysis.
- Leveraging NLP for improved AI outputs.

Module 4: Model Finetuning and Optimization

Learning Objectives:

- Gain skills in model finetuning for specific tasks.
- Focus on optimizing performance and efficiency.

Topics Covered

Finetuning Techniques:

- Strategies for adapting LLMs to specific domains and tasks.
- TTools and frameworks for effective model finetuning.

Optimization Strategies:

- Techniques to enhance model performance and speed.
- Practical aspects of reducing computational overhead.

Module 5: Programming with AI Platforms

Learning Objectives:

- Develop proficiency in programming with AI platforms like TensorFlow and PyTorch.
- Apply these skills to build and manage AI solutions.

Topics Covered

Introduction to TensorFlow and PyTorch:

- Overview of leading AI development platforms.
- Key features and capabilities of TensorFlow and PyTorch.

Building AI Solutions:

- Steps to develop AI applications from concept to execution.
- Handling data inputs and model outputs effectively.

Module 6: Application of AI in Realworld Scenarios

Learning Objectives:

- Integrate learned AI concepts into realworld applications.
- Evaluate AI model performance based on practical criteria.

Topics Covered

Realworld AI Applications:

- Examples of successful AI implementations across industries.
- Analyzing case studies for insights and best practices.

Evaluating AI Performance:

- Metrics and benchmarks for assessing model performance.
- Continuous improvement and iteration in AI projects.