AZURE OPENAI BOOT CAMP FOR DEVELOPERS (TTAI2335)

Course Code: 834074

Hands-on Quick Start! OpenAI and Azure AI platforms, Generative AI, capabilities, AI models, prompt engineering and more.

Immerse yourself in the transformative world of AI with the Azure OpenAI Boot Camp for Developers. This intensive program is designed for developers new to Azure OpenAI and OpenAI, offers an exceptional opportunity to harness AI's capabilities using the leading-edge Azure platform.This program is structured to give you a strong foundational understanding of AI and its diverse applications, from language translation to prediction modeling.

Guided by our Microsoft Azure-certified AI expert instructor, you'll gain modern hands-on skills using cutting-edge tools to implement innovative AI solutions at your workplace, resulting in smarter applications and improved operational efficiency. Throughout the course you'll explore five main themes: OpenAI and Azure OpenAI platforms, Generative AI, Azure OpenAI's capabilities, exploration of AI models, and prompt engineering. You'll gain core skills and gain hands-on practice with major AI models including GPT-4, GPT-3, DALL-E, Codex, and Embedding, learning how to apply them on the job or in your projects in a practical way. You'll also become adept at prompt engineering, a skill that is essential to the successful deployment and performance of AI tasks.

You'll engage with a wide array of subjects, from experimenting with Azure OpenAI's features to fine-tuning GPT models, implementing embeddings and indexing, and establishing content filters. In addition, you'll learn about Azure OpenAI's workload management, access procedures, and responsible AI practices. This ensures that all AI applications developed are not only high-performing and efficient but also ethically sound and compliant with regulations.

At the end of this immersive course, you will have gained a deep understanding of the distinctive features of both OpenAI and Azure OpenAI platforms, developed advanced skills in prompt engineering and fine-tuning AI models, and gained hands-on experience with the applications of embeddings and indexing. Moreover, you will have the practical knowledge to apply these skills to improve your organization's AI capabilities, opening the door to a new level of innovative solutions, and preparing you for the AI-focused world of tomorrow.

What You'll Learn

This course combines engaging instructor-led presentations and useful demonstrations with valuable hands-on labs and engaging group activities. Throughout the course you'll:

- Gain a solid comprehension of the OpenAI and Azure OpenAI platforms, their unique features, and their capabilities.
- Develop an in-depth understanding of prominent AI models such as GPT-4, GPT-3, DALL-E, Codex, and Embedding, and their potential applications.
- Learn to manipulate the output of AI models effectively using the principles of prompt engineering.
- Gain the ability to fine-tune AI models efficiently, enhancing their performance for specific tasks.
- Obtain practical knowledge in implementing embeddings and indexing, integral parts of machine learning tasks.
- Understand Azure OpenAI's responsible AI practices, access policies, and security measures, fostering ethical and compliant AI applications within your organization.
- Grasp the principles and best practices of creating a private Business GPT, a critical skill in leveraging AI technology for business-specific applications.
- Develop proficiency in setting up and configuring content filters within Azure OpenAI Studio, enhancing the relevance and appropriateness of AI output.

Who Needs to Attend

This Intermediate level course is geared for experienced technical professionals eager to deepen their understanding of AI and apply it in their work. Roles that would particularly benefit from attending include data scientists, machine learning engineers, AI researchers, and IT managers involved in AI strategy and deployment. This course is also well-suited for advanced tech enthusiasts who wish to get a comprehensive, hands-on introduction to the applications of OpenAI and Azure OpenAI technologies.

Prerequisites

To ensure a smooth learning experience and maximize the benefits of attending this course, you should have the following prerequisite skills:

- A basic understanding of artificial intelligence and its applications would help to quickly grasp the course content.
- A working knowledge of Python basics helpful but not required. Lab code will be supplied so you can simply run it for labs that require it.
- Basic Understanding of Data Structures
- Prior exposure to any cloud services platform (such as Azure, AWS, or Google Cloud) would be beneficial.

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VIRTUAL CLASSROOM LIVE	$2,985 CAD	2 Day

Virtual Classroom Live Outline

Day – 1:

Module 1: Introduction and Overview

- Introduction to OpenAI and Azure OpenAI
- Core competencies and objectives of OpenAI and Azure OpenAI
- Distinctive features of both platforms
- Comparative evaluation of OpenAI and Azure OpenAI
- Discussion and debrief

Module 2: Unfolding Generative AI

- Definition of generative AI
- Evolution and historical context of generative AI
- Use-cases of generative AI in various industries
- Overview of generative AI algorithms and frameworks
- Review and analysis of findings

Module 3: Deep Dive into Azure OpenAI

- Detailed overview of Azure OpenAI
- In-depth analysis of Azure OpenAI's architecture and infrastructure
- Key features and benefits of Azure OpenAI
- Overview of Azure OpenAI applications and success stories
- Discussion on insights and challenges

Module 4: AI Models Exploration

- Introduction to GPT-4, GPT-3, DALL-E, Codex, and Embedding
- Overview of model development and evolution
- Comparison of features and use-cases of each model
- Exploration of the potential future advancements and applications of these

models
- Activity: Practical demonstration of different model uses
- Analysis and review

Module 5: The Art of Prompt Engineering: The Basics

- Introduction to the concept of prompt engineering
- Understanding the core principles of prompt engineering
- Importance and role of prompt engineering in AI model performance
- Analysis of common challenges and solutions in prompt engineering
- Discuss and review findings and strategies

Day – 2:

Module 6: Mastering Prompt Engineering: Advanced Topics

- Deep dive into advanced topics like space efficiency, few-shot learning, and non-chat scenarios
- Exploration of key strategies like clear instructions, prime the output, and clear syntax
- Review of real-world examples of advanced prompt engineering
- Analysis of common mistakes and pitfalls in advanced prompt engineering
- Review outcomes and insights

Module 7: Azure OpenAI Workloads and Access

- Overview of different Azure OpenAI workloads
- Analysis of workload performance and scalability
- Procedures for accessing the Azure OpenAI Service
- Review of Azure OpenAI Service's reliability and maintenance
- Discuss challenges and solutions

Module 8: Fine-Tuning Mastery: GPT Model

- Introduction to the concept of fine-tuning a GPT model
- Understanding the mathematical principles behind fine-tuning
- Steps and tips for efficient fine-tuning
- Analysis of common challenges in fine-tuning and potential solutions
- Review outcomes and insights

Module 9: Essentials of Embeddings and Indexing

- Understanding embeddings and indexing
- Introduction to the mathematical theories behind embeddings and indexing
- Importance and real-world applications of embeddings and indexing
- Discussion on the challenges and potential advancements in embeddings and indexing
- Discuss the application and challenges

Module 10: Content Filtering Made Simple

- Introduction to content filtering in Azure OpenAI Studio
- Understanding the mathematical models behind content filtering
- Key best practices for effective content filtering
- Discussion on ethical and legal considerations in content filtering

- Discuss and review outcomes

Module 11: Building a Private Business GPT

- Concepts of LangChain and Llama Index
- Introduction to the principles and best practices in GPT business application
- Guidelines for creating a private business GPT
- Discussion on the challenges and future of business GPTs
- Discuss and review project

Module 12: Ensuring Security and Effective Monitoring

- Introduction to Azure Tooling for security
- Overview of the principles of secure AI deployment
- Best practices for monitoring Azure OpenAI applications
- Discuss future challenges and advancements in AI security and monitoring
- Discuss outcomes and insights

Module 13: Azure OpenAI Responsible AI Practices and Limited Access Policies

- Overview of Azure OpenAI's responsible AI practices
- Understanding the ethical considerations in AI application
- Understanding Azure OpenAI's limited access policies
- Discussion on the legal framework and potential challenges in AI access policies
- Discuss outcomes, analysis and insights

Module 14: Capstone Project

- Final project review and feedback session

Module 15: Wrap-up, Q&A

Virtual Classroom Live Labs

- Lab 1 - Comparison of OpenAI and Azure OpenAI
- Lab 2 - Investigating real-world applications of generative AI
- Lab 3 - Exploring Azure OpenAI capabilities through practical exercises
- Lab 4 - Basic of prompt engineering tasks
- Lab 5 - Advanced prompt engineering activities
- Lab 6 - Accessing and using Azure OpenAI
- Lab 7 - Exercise to fine-tune a GPT model
- Lab 8 - Practical activity on implementing embeddings and indexing
- Lab 9 - Set up and configure content filters
- Lab 10 - Create a private business GPT
- Lab 11 - Practical activities on security setup and monitoring
- Lab 12 - Implementing responsible AI practices
- Lab 13 - Comprehensive project that integrates learning from all modules

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PRIVATE GROUP TRAINING	2 Day

Visit us at www.globalknowledge.com or call us at 1-866-716-6688.

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