Generative AI for Developers (TTAI2305) Training

Duration: **3 Day**

BILGINC IT Academy
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Overview

Learn how to accelerate coding, automate testing, improve documentation, and create dynamic user experiences using cutting-edge generative AI technologies.

Generative AI for Developers is an intensive hands-on training course designed to help software professionals integrate **advanced AI technologies** into modern software development workflows.

Generative AI is transforming the software industry by enabling developers to **generate code**, **automate documentation**, **improve testing processes**, **enhance UI/UX experiences**, and create **adaptive content** faster than ever before. Industry leaders such as **NVIDIA, OpenAI, and Google** are driving innovation through powerful AI models and frameworks.

This comprehensive **three-day training program** introduces participants to advanced generative AI models including **GANs, VAEs, and Transformers** while providing practical experience building **AI-powered applications** and development workflows.

Throughout the course, participants will explore **AI-assisted coding**, **prompt engineering**, **automated testing**, **ethical AI practices**, **AI security**, **UI/UX enhancement**, and **real-world AI integration strategies**.

By the end of the course, attendees will have the skills needed to **design, build, test, and deploy AI-driven software applications** with confidence.

Why Attend This Generative AI Training?

This course provides practical, real-world experience with the latest **Generative AI technologies** used in modern software engineering. Participants gain hands-on skills in **AI-assisted coding**, **automation**, **prompt engineering**, and **LLM integration**, helping teams accelerate development and drive innovation.

By completing this training, developers and technical leaders will be prepared to build next-generation AI-powered applications with greater efficiency, creativity, and scalability.

Prerequisites

This is a highly technical course. Participants should have:

- Experience with **software development**
- Knowledge of **C++, Java, C#, or HTML/Javascript**
- Basic understanding of **artificial intelligence** and **machine learning**
- Familiarity with **neural networks** and optimization concepts

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Who Should Attend

This course is ideal for:

- **Software developers**
- **Programmers**
- **Software engineers**
- **Technical team leads**
- **Technical product managers**
- **UI/UX designers**
- Professionals interested in **AI-powered software development**

This training is designed for **intermediate and advanced professionals** with a background in programming and a basic understanding of **artificial intelligence** and **machine learning concepts**.

What You Will Learn

By the end of this course, participants will be able to:

- Apply **Generative AI technologies** in software development projects
- Understand and utilize **GANs, VAEs, and Transformer models**
- Use **AI-assisted code generation**
- Create documentation using **AI-powered tools**
- Automate testing workflows with AI
- Apply advanced **prompt engineering techniques**
- Enhance **UI/UX experiences** using AI
- Build secure and ethical AI-driven applications
- Integrate **LLMs (Large Language Models)** into real-world applications

Outline

1. Introduction to Generative AI

- Understanding **Generative AI concepts and applications**
- Evolution of AI technologies
- Types of generative models
- Fundamentals of **machine learning** and **neural networks**
- Popular models including **GPT and Codex**

2. Introduction to Prompt Engineering

- Understanding the role of prompts in AI
- Crafting effective prompts
- Improving AI outputs through prompt optimization
- Experimenting with prompt variations

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3. Deep Dive into AI Models

- Modern AI model architectures
- Using **ChatGPT, Claude Sonnet, and Grok**
- Exploring **Ask, Edit, and Agent modes**
- AI-assisted development inside IDEs
- Evaluating AI model performance and limitations

4. The SDLC and Development Environment

- Understanding the **Software Development Life Cycle**
- Setting up development environments
- Selecting AI tools and frameworks
- Establishing iterative development workflows

5. Developing Application Requirements

- Creating a **Product Objectives Document**
- Building **User Stories** and use-cases
- Requirement analysis and review
- AI-assisted planning and documentation

6. Architecture and AI-Assisted Design

- AI-assisted architecture design
- Creating **Mermaid diagrams**
- Generating technical design documentation
- Developing object models using AI

7. AI Assisted Coding

- **Inline code assistance**
- **Agent-mode coding**
- Guiding software development with AI
- Accelerating development workflows

8. AI Assisted Testing

- Generating **integration and system tests**
- Improving **test coverage**
- Automating QA and testing processes
- Increasing software reliability with AI

9. Security and AI

- AI-driven **code reviews**
- Identifying security vulnerabilities
- Mitigating software risks
- Enforcing coding best practices

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10. Integrating AI into Applications

- Using **LLMs in modern applications**
- Secure AI integrations
- Prompt validation techniques
- Avoiding AI-related security risks

11. Ethics and Responsible AI

- Ethical considerations in AI development
- Detecting and mitigating AI bias
- Privacy and fairness principles
- Understanding AI regulations and compliance