**AI Developer Foundation
50-Hour Intensive Course**

**About SNA Technologies:**

SNA Technologies Inc. (SNAT), established in 2006 and headquartered in Michigan, USA, is a global leader in IT solutions and training. We provide innovative AI-driven training and consulting services designed to enhance the technical capabilities of IT professionals worldwide. As a recognized member of The Open Group, we contribute to the advancement of global standards in enterprise architecture and IT solutions. With a team of seasoned professionals, we are committed to delivering top-tier AI and data science education.

**Why Choose SNA?**

The **AI Developer Foundation** course provides a comprehensive introduction to AI development, focusing on practical coding skills, data science, machine learning, and AI-driven applications. This course is designed for aspiring AI developers who want to master the foundational principles and technical skills required for building AI models and solutions.

Key reasons to choose SNA for your AI Developer training:

* Experienced, certified instructors with hands-on industry experience.
* Focus on practical skills, including coding, problem-solving, and algorithm design.
* Access to exclusive tools, case studies, and AI resources.
* Structured learning path with 50 hours of in-depth training.
* High pass rates, with a proven track record of successful certifications.

**Course Approach**

This 50-hour course provides both theoretical knowledge and practical experience, with hands-on exercises and projects. Participants will learn how to work with data, apply machine learning algorithms, and develop AI solutions using Python. The course will also cover key areas such as Generative AI, ChatGPT, and prompt engineering, which are essential for building modern AI systems.

**Summary**

The **AI Developer Foundation** course is designed to provide participants with a solid understanding of AI development and data science. This course equips learners with the skills necessary to work with data, build machine learning models, and implement AI solutions using Python.

**Learning Goals**

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

* Understand the foundational concepts of AI and its applications.
* Work with Python for data science and AI model development.
* Apply machine learning algorithms and techniques in real-world scenarios.
* Build recommendation systems and classification models.
* Utilize Generative AI, including ChatGPT, for AI-driven applications.
* Understand and apply key principles in data science, including regression and unsupervised learning.

**Topics Covered (50 Hours)**

**1. Basic Concepts of AI**

* Introduction to Artificial Intelligence
* Applications of AI in industry
* Core AI principles and methodologies

**2. Basic Concepts of Generative AI, ChatGPT, and Prompt Engineering**

* Overview of Generative AI
* Working with ChatGPT and other language models
* Introduction to prompt engineering for AI applications

**3. Programming Refresher - Python**

* Python programming basics and syntax
* Data structures and algorithms in Python
* Python for scientific computing

**4. Python for Data Science**

* Data manipulation with Pandas
* Data visualization with Matplotlib and Seaborn
* Introduction to NumPy and SciPy for numerical analysis
* Working with data in Python

**5. Applied Data Science in Python**

* Cleaning and preprocessing data
* Exploratory data analysis (EDA)
* Feature engineering and selection

**6. Machine Learning**

* Overview of machine learning algorithms
* Introduction to supervised and unsupervised learning
* Model evaluation and performance metrics

**7. Supervised Learning**

* Regression models (Linear Regression, Decision Trees, etc.)
* Applications of supervised learning in real-world problems
* Model training and optimization techniques

**8. Unsupervised Learning**

* Clustering techniques (K-means, DBSCAN, etc.)
* Dimensionality reduction (PCA, t-SNE)
* Applications of unsupervised learning

**9. Regression and its Applications**

* Understanding regression models and their applications
* Model fitting, validation, and interpretation
* Implementing regression algorithms in Python

**10. Classification and its Applications**

* Introduction to classification algorithms (Logistic Regression, SVM, etc.)
* Model evaluation and tuning for classification problems
* Real-world use cases for classification

**11. Recommendation Systems**

* Overview of recommendation system algorithms (Collaborative filtering, Content-based, Hybrid)
* Building a recommendation engine using Python
* Case study: Real-world application of recommendation systems

**What Attendees Get**

Course registration includes:

* Comprehensive course materials and workbooks
* Practical exercises and projects
* Access to a community of professionals and experts
* Certificate of Completion upon successful course completion

**Who Will Benefit?**

This course is ideal for:

* Aspiring AI developers and data scientists.
* IT professionals transitioning into AI development roles.
* Engineers and software developers interested in AI applications.
* Students and professionals with a background in programming or computer science.

**Prerequisites**

No formal prerequisites are required, but familiarity with basic programming concepts is recommended. A background in programming or computer science will help you get the most out of this course.

**Professional Development Units (PDUs)**

Participants may be eligible to apply for PDUs towards continuing education requirements with relevant certification bodies.