



# **Agentic AI Development**

**From Python to Essential AI in Production**

**A 12 week diploma-cum-bootcamp to help  
acceleration in AI Development & Entrepreneurship**

**A Pre-Requisite Diploma for Advance Phase**

**Every Sunday  
11 am - 1.30 pm**

**Tentative Curriculum Outline**

# Introduction

Welcome to **Agentic AI Development: From Python to Agentic AI in Production:** a dynamic 12-week diploma-cum-bootcamp to accelerate your journey from **coding basics to launching Agentic AI-solutions.** This program is crafted for ambitious minds ready to build agentic AI systems and real-world solutions using edge-friendly tools and models.

Over these 12 weekends, you'll first solidify your Python and web development foundations, then transition into **Agentic AI development;** blending backend architectures, LLM APIs and agentic workflows. Every class is designed to help you build tangible, deployable applications that address real problems. **We will have 2.5 hr (150-min) long class each day on Sundays.**

By the end of this bootcamp, you'll not only have a polished portfolio of AI projects but also the entrepreneurial mindset to transform prototypes into scalable ideas. Whether you're aiming to join a startup, innovating solutions for your community, or planning for employment in AI industry: this bootcamp provides the skills, exposure, and momentum you need to make it happen.

This course is a Phase 01 of 02 for Advance AI Engineering Track





## Meet the Instructor

# M. Huzaifa Shahbaz

With four years of hands-on experience in AI development and enterprise systems engineering, **Huzaifa is passionate about transforming ideas into real-world AI solutions.** He has architected scalable backends, deployed Agentic AI-powered systems, led impactful AI projects in both startup and R&D settings, and navigated the full stack from vision models to robust production pipelines at startups and enterprises in United States, South Korea & Pakistan.

He believes in learning by doing and that real innovation happens when you bridge foundational skills with entrepreneurial drive. In this bootcamp, **He'll be guiding you through that journey, combining proven technical practices with industry contexts that prepare you for tomorrow's AI-driven challenges.**

# Python Programming

01

## Variables, Data Types & Decision Controls

*By the end of first class, you will be introduced to Google Colab and you'll write a simple Python script that deals with numbers and strings, and conditions to make decisions, practically this is a ground fundamentals of every decision making in our universe and logic design.*

02

## Decision Controls with Control Flow (Loops)

*You'll dive deeper in Decision Controls with the ability to iterate your data structures more conditionally using loops - making the control flow logic of any program.*

03

## Classes, Inheritance & Polymorphism

*You'll build class-based Python programs, showing how more specific classes can inherit features from general classes and change behavior when needed.*

04

## Functions, Modules & File Handling

*You'll group code into reusable functions, use external Python modules, and read/write files so your programs can remember and reuse information.*

# Web Essentials with Backend

05

## Web Architecture and HTML/CSS/JS Fundamentals

*You'll understand how browsers and servers communicate, and create a basic webpage with HTML, style it with CSS, and make it interactive with JavaScript.*

06

## Building Responsive UIs with AI Coding Assistants

*You'll use AI tools to help you quickly build a page that looks good on mobile and desktop: learning how to ask the right prompts to speed up UI creation.*

07

## FastAPI Foundations and RESTful API Design

*You'll build your first real API small backend with FastAPI that can receive and send data using REST principles.*

08

## Database Integration + Cloud Deployment

*You'll connect your API to a database to store information, and then deploy your project to the cloud so the world can use it.*

# Agentic AI Development

09

## OpenAI GPT-5, Gemini Pro & Claude API

*You'll connect to major AI models, send questions, and display their responses—learning how to build apps that talk to powerful LLMs.*

10

## Building LLM & Knowledge Based Chatbot

*You'll create a web app where users can chat with an LLM or generate text—think mini-AI storyteller or assistant in your browser.*

11

## N8n Smart Home Control Demo + Workflow Automation

*You'll build a workflow with n8n that uses AI to decide when to turn lights on/off or send reminders—showcasing how AI agents can automate real tasks.*

12

## AI Agent Frameworks Deep Dive

*You'll experiment with different agent frameworks, seeing how they let your AI think, plan, and take multi-step actions—comparing strengths and ease of use.*

HACKATHON DAY

# Build with AI Finale

13

## AI Entrepreneurship & Impact Hackathon (5 Hours + Evaluation)

*In this sprint designed to echo Silicon Valley culture, you'll:*

- Identify a real-world problem that AI can help solve—whether it's improving local education, boosting small businesses, or solving a community challenge.
- Build a working prototype using edge LLMs or computer vision models, demonstrating how AI can tangibly address the issue.
- Deliver a concise, compelling startup-style pitch that showcases the problem, your unique solution, and why it matters.
- Learn how to refine and iterate beyond class, thinking like an entrepreneur who can take an idea from spark to startup.

*This high-energy sprint gives you a taste of real innovation culture—rapid ideation, teamwork under pressure, creative solutions, and the thrill of building something that could change the world. Hackathons like this are shown to drive new ventures, sharpen collaboration skills, and spotlight entrepreneurial flair.*

**End of the curriculum outline**

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