



VIBE CODING FOUNDATION

BY ELITE INDIGO

Walk away with practical 'quick wins' to effectively improve your
vibe coding skills and enhance productivity immediately.

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Vibe Coding Foundations

• Program Overview

This two-day program introduces vibe coding—AI-augmented programming—blending responsible AI with practical workflows across Python, data science, and full-stack web development.

Participants learn prompt engineering, environment setup, AI-assisted coding, debugging, and refactoring, then progress to building end-to-end data pipelines and responsive web applications using modern tools and Copilot.

Emphasis is placed on reliability, privacy, security, and intellectual property, alongside strategies to trust, verify, and optimize AI outputs. Through hands-on projects, learners practice generating, explaining, and improving code, visualizing data, training models, and designing APIs, while adopting innovative “antigravity” thinking to challenge assumptions and re-architect solutions for scalable, creative, and ethical systems

• Learning Objectives

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

1. Apply responsible AI principles and prompt engineering techniques to generate, evaluate, and optimize reliable code using AI tools.
2. Set up professional development environments and use AI for Python programming, debugging, refactoring, and documentation.
3. Build end-to-end data science workflows and machine learning pipelines with AI-assisted analysis, visualization, and reporting.
4. Design and implement full-stack web applications and APIs, leveraging “antigravity” thinking to create innovative, scalable solutions.

- **Duration** Two(2) Full-Day Workshop;



Vibe Coding Foundations

• Course Schedule (Day 1)

DAY/TIME	Topic
30 Minutes	Introduction
1 Hour	Module 1: Introduction to Vibe Coding <ul style="list-style-type: none"> • Concept of vibe coding: AI-augmented programming. Integrated ethics & responsible AI (formerly Module 10). • 4 Pillars of Responsible AI: Reliability, Privacy, Security, IP. • When to trust vs. not trust AI. • Avoiding hallucinations, vulnerabilities, outdated
1 Hour 30 Minutes	Module 2: Prompt Engineering for Programmers <ul style="list-style-type: none"> • High-quality prompt structure. Coding prompt templates. • Copilot Chat vs Inline Suggestions. 10 Golden Prompts for vibe coders. • Developer mindset when working with AI. • Responsible prompting patterns. Hands-on: generate, modify, optimize, explain code.
1 Hour	Lunch
1 Hour 30 Minutes	Module 3: Setting Up the Environment <ul style="list-style-type: none"> • Python 3.12+ installation. VSCode setup. • Copilot installation & configuration. • Virtual environment setup. • Hands-on: Create project environment.
1 Hour 30 Minutes	Module 4: AI-Assisted Python Core Skills <ul style="list-style-type: none"> • AI-generated logic, loops, file I/O, errors. • Optimizing code with AI. Documentation and tests via Copilot. • Hands-on: Mini utilities toolkit.
1 Hour 30 Minutes	Module 5: AI-Augmented Debugging & Refactoring <ul style="list-style-type: none"> • Bug explanation prompts. • AI-assisted debugging. Refactor patterns. • Hands-on: Fix a buggy script.
30 Minutes	Summary & Wrap Up

Vibe Coding Foundations

• Course Schedule (Day 2)

DAY/TIME	Topic
30 Minutes	Introduction
1 Hour	Module 1: AI Assisted Data Analysis <ul style="list-style-type: none"> AI-assisted data cleaning & EDA. Visualization generation with prompts. ML pipeline generation via vibe coding. Hands-on: Build end-to-end ML workflow.
1 Hour 30 Minutes	Module 2: AI-Assisted Data Science Pipeline <ul style="list-style-type: none"> Using AI to design complete DS pipelines. Feature engineering accelerated by AI. AI-generated model training, tuning & evaluation. AI-generated reporting (tables, charts, insights). Hands-on: Build full DS pipeline from raw CSV → model → evaluation.
1 Hour	Lunch
1 Hour 30 Minutes	Module 3: Web Development (Frontend) Using Vibe Code <ul style="list-style-type: none"> Modern frontend foundations using HTML, CSS, and JavaScript. Building responsive layouts and interactive UI components. AI-assisted frontend coding with Copilot. Best practices for structuring web files and optimizing assets. Hands-on: Build a fully responsive frontend page (navigation bar, hero section, interactive elements) using AI-assisted coding in Vibe Code.
1 Hour 30 Minutes	Module 4: Web Development (Backend) Using Vibe Code <ul style="list-style-type: none"> Backend fundamentals using Node.js and Express. Routing, middleware, APIs, and handling requests/responses. AI-assisted backend scaffolding, debugging, and optimization using Copilot. Intro to connecting to databases (SQLite or MongoDB). Hands-on: Build a backend API to power the Module 8 frontend (GET/POST endpoints + simple database storage).
1 Hour 30 Minutes	Module 5: AI-Augmented Debugging & Refactoring <ul style="list-style-type: none"> Using Google Antigravity as a metaphor for breakthrough innovation and non-linear thinking. How big-tech research culture (Google X, moonshots) encourages "impossible-first" problem framing. Applying antigravity thinking to software design, AI workflows, and system architecture. Hands-on: Re-design an existing project by removing one core assumption and re-prompting AI for novel architectures.
30 Minutes	Summary & Wrap Up





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ABOUT ELITE INDIGO

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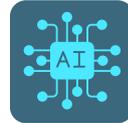
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