

## AI Expert

**50 Hours**

***From Understanding to Hands-On Mastery of Generative and Agentic AI  
— No Coding Required!***

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### **Course Introduction**

The *AI Expert* program is designed for professionals eager to understand and apply the transformative power of Generative and Agentic AI — without writing a single line of code. This 50-hour, hands-on course provides a comprehensive journey from foundational AI concepts to the creation of intelligent, automated systems that deliver real business value.

Participants will explore how AI models think, reason, and generate insights, while mastering no-code tools that make AI innovation accessible to everyone. Through real-world demos, interactive exercises, and practical projects, learners will gain the confidence to design AI-driven workflows, develop agentic systems, and integrate RAG (Retrieval-Augmented Generation) for smarter organizational knowledge use.

By the end of the course, graduates will not only understand the mechanics and ethics of modern AI but will also be equipped to lead AI adoption and innovation initiatives within their organizations — bridging the gap between strategy, technology, and real-world impact.

### **Syllabus**

#### **Module 1 – Introduction to AI**

Build a shared understanding of what AI really is (and isn't) and where it may create tangible business value.

- What is Artificial Intelligence?
- AI Types: predictive, generative, RAG, and agentic AI
- How AI is reshaping industries and workflows
- Where humans still lead: the role of intuition and ethics
- Live demo: from idea to AI-generated output in 60 seconds

#### **Module 2 – How Modern AI Works**

In a Nutshell: Demystify how today's generative AI systems “think,” without math or code.

- From data to intelligence: how machines learn
- Neural networks
- The attention, and the transformer revolution
- Large Language Models (LLMs) explained visually
- Beyond text: diffusion models, audio, and image generation
- Live demo: “How GPT sees language” and visual generation in action

### **Module 3 – Prompt Engineering: Speaking LLM’s Language**

Learn how to communicate effectively with AI systems to get accurate, creative, and consistent results.

- Why prompting matters
- Instructional vs. conversational prompting
- The Role–Context–Task–Format framework
- Sample use-cases
- Practice: real-life work scenarios — emails, summaries, analysis, ideation

### **Module 4 – AI and Decision Making**

Understand how to combine human judgment with AI insights for better decisions.

- Human + AI collaboration models
- Cognitive bias and trust calibration
- Using AI as a “red team” and second opinion
- Demo: comparing human vs. AI decision paths
- Practice: structured decision exercises

### **Module 5 – AI Tools and Use Cases Across Functions**

Discover where and how AI can boost productivity, creativity, and efficiency across departments.

- Sales & Marketing – personalization, lead scoring, copy generation
- HR – recruitment screening, skill mapping, learning & development
- Finance – forecasting, reporting, risk detection
- Project Management – AI copilots and workflow automation
- Development – low-code assistants and test automation
- Productivity & Creativity – text, visuals, presentations, video
- Demo & Practice: hands-on with leading tools (ChatGPT, Notion AI, Perplexity, Gamma, etc.)

### **Module 6 – No-Code AI Tools and Automation**

Build automated workflows and lightweight AI apps — without writing a line of code.

- Overview of no-code/low-code AI tools
- Designing end-to-end automations (input → reasoning → output)
- Connecting AI to business systems (Docs, Sheets, Slack, CRM)
- The rise of “vibe coding” — pros, cons, and best practices
- Demo: build a working AI workflow live
- Practice: create your own mini automation

## Module 7 – AI in Data Analysis

Use AI to explore, analyze, and visualize data — even without SQL or Python.

- Working with structured data in AI assistants
- Automatic data cleaning, charting, and interpretation
- Demo: natural-language queries on datasets
- Practice: use AI to analyze a sample business dataset

## Module 8 – Agentic AI: Beyond Chatbots

Explore the next frontier of AI — autonomous and semi-autonomous agents that act, plan, and collaborate.

- What makes an AI “agentic”?
- Reasoning, memory, and planning patterns
- Tools, APIs, and the Model Context Protocol (MCP)
- Multi-agent collaboration and orchestration
- Platforms overview (e.g., CrewAI, OpenDevin, AutoGen, LangGraph)
- Demo: see an AI agent complete a real task
- Practice: design and run a custom agent workflow

## Module 9 – Retrieval-Augmented Generation (RAG) and Knowledge Management

Learn how to connect AI with your organization’s internal knowledge safely and effectively.

- What is RAG and why it matters
- Embeddings, chunking, and media handling
- Integrating internal documents, databases, and APIs
- How agents use RAG for smarter answers
- Demo: chat with your organization’s documents

## Module 10 – AI Adoption in Organizations

Prepare participants to lead or contribute to responsible AI adoption.

- AI risks: hallucinations, bias, compliance, and leakage
- Governance and ethical frameworks
- Measuring success: adoption KPIs and ROI
- Best practices from early adopters

## Module 11 – Future Trends in AI

Gain foresight into where AI is headed — and how to stay ahead.

- Autonomous AI and continuous learning systems
- Multi-modal and context-aware assistants
- Personalization and “AI twins”
- Edge and on-device intelligence
- The evolving job landscape and new AI roles
- Agent interoperability and ecosystem convergence

## Module 12 – Final Project: Your AI in Action (8h)

Apply everything learned to create a real, useful AI solution.

- Choose from guided project tracks
- Or propose your own workplace-relevant idea
- Presentation and peer feedback (optional)