RetenaAI

AI SYSTEMS INTERGRATION PROGRAM

CURRICULUM

🔍 Program Goal

To equip non-technical learners with the practical skills and business mindset to become AI systems integrators. Graduates will be able to design, deploy, and manage AI-powered systems using no-code tools, agents, and APIs to solve real-world business problems.

🔍 Program Highlights

⏱️ 150+ Hours of Guided Learning
Comprehensive curriculum spanning theory, tools, and hands-on integration.

🧰 20+ Tools, Platforms & Frameworks
Master modern platforms like Make, n8n, Relevance AI, MindStudio, Pinecone, and more.

🤖 50+ AI Agent & Automation Projects
Work on industry-inspired projects, including agents for marketing, HR, research, and customer service.

📝 15+ Real-World Assignments
Practice system integration, prompt design, and workflow engineering.

🎓 75+ Mentorship & Peer Review Sessions
Get 1:1 support from experienced AI builders, consultants, and educators.

FUSION PHASE (WEEK 1–6)

Objective: ***Build a conceptual foundation in generative AI, prompt engineering, and NLP.***

Module 1: Introduction to Generative AI: Week 1–2: C

- What is Generative AI?
- How do Language Models Work?
- Understanding how transformers advance language models.
- Understanding differences in language models
- Improving prompt results
- Evaluating for quality responses
- Creating responsible generative AI solutions.

- **Outcome:** Students can describe LLMs, generate quality prompts, and understand responsible AI usage.

Module 2: Prompt Engineering: Week 3–4: C

- What is Prompt Engineering?
- Choosing the right LLM for your task.
- Getting started with ChatGPT.
- Introduction to LLMs.
- RETENA.AI Prompting Framework (Context → Persona → Output Goal).
- Context - What is it?
- Persona and roles.
- Custom instructions.
- Thinking like LLMs

- **Outcome:** Students apply structured prompting to solve business-related tasks

Module 3 : Generative AI 1 : Week 5–6: C

- Word Embeddings.
- Contextual Embeddings.

LLMs - The Hard Parts

- The problem with LLMs

Retrieval Augmented Generation - RAG

- Introduction to RAG
- RAG architecture
- Vector databases

- **Outcome:** Students can explain how LLMs work under the hood and why their design matters in business workflows

Module 4: Applied NLP for System Integrators: Week 5–6: E

- What is NLP?
- Practical Use cases of NLP: Sentiment analysis, entity recognition, summarisation
- Named Entity Recognition (NER)

- **Outcome:** Students know when and how to use NLP tools in business contexts

PRE-TRACK PHASE (WEEKS 7–12)

Objective: *Build integration, workflow design, and automation skills.*

Module 5: Agentic AI & Automation Thinking: **Week 7-9: C**

Foundations of Agentic AI & Automation Thinking

- What are AI Agents?
- Business systems and automation thinking.
- Systems integrator mindset: **Input → Tool → Output → Business Value" frameworks**

- **Outcome:** Students understand what AI agents are and why they matter

Technical Foundations for Integrators

- What are APIs?
- HTTP Methods: GET, POST.
- Reading JSON responses
- Working with API Testing tools (Postman, No-code REST Clients)

- **Outcome:** Students can read API docs and interact with APIs via no-code tools

AI Workflow Design

- Workflow design principles
- Trigger - action architecture
- Building in **MAKE:** End-to-End Demo
- Building in **N8N:** End-to-End Demo

- **Outcome:** Students can design and build business automation workflows

Module 6 : AI Agent Design and Development : Week 10: C

- Deep dive into AI Agents.
- Multi-agent systems.
- Designing agents with task-specific memory (e.g., session memory or long-term state)
- Introduction to agent builder tools - **N8N, MAKE, FLOWISE, RELEVANCE AI, VOICEFLOW**

- **Outcome:** Students can design and build business automation workflows

Module 7: Automation Design: Week 11: C

- Integrating external APIs.
- Agent + Workflow collaboration.
- Automation Design: **Case study**: Building personal assistants.
- Troubleshooting & Monitoring Automations.

- **Outcome:** Students can design and build business automation workflows

Module 8 : Business systemisation with AI : Week 12: C

- Designing a business solution using agents + Workflows.
- Portfolio groundwork
- Client readiness checklist
- Packaging and Pricing AI Systems for Clients
- Final Pitch Demo day Simulation.

- **Outcome:** Students can design and deliver client-ready AI business systems and pitch them effectively.

Note: Modules labeled **C** are **Compulsory**, meaning all learners must complete them. Modules labeled **E** are **Electives**, which learners may choose based on their interests or specialization goals.

TRACK PHASE (WEEK 13–16)

Objective: *Apply skills in specialised tracks via project-based simulations.*

Students choose one specialisation track and complete a capstone project with support from mentors.

The track brochure and manual contain a concept outline. Detailed tasks and project descriptions will be provided once you join your chosen track.

Available Tracks:

1. **AI Solutions Consulting & Strategy.**

For fellows interested in consulting with companies to develop AI-driven business solutions, helping them integrate AI effectively into their systems and operations.

Core focus

- AI Business Strategy
- Client Consultation
- AI Implementation Roadmaps
- Workflow Automation for Clients
- AI Adoption Challenges

Key Skills: Business acumen, AI project management, client communication, AI feasibility analysis.

2. **AI Workflow Design & Integration**

For fellows who are more inclined to focus on the design and integration of AI workflows into real-world applications, building the infrastructure for automation and AI-powered systems.

Core Focus

- Automation & Workflow Design
- API Integrations
- Business Process Automation
- No-code AI Tools (e.g., Make, N8N, etc.)

Key Skills: Workflow management, process optimization, system design, integration with APIs.

3. AI Product Development - No Code

For learners focused on building scalable AI-driven applications or platforms — from idea to MVP to monetization.

Core Focus

- SaaS product design principles
- Lean MVP development with no-code + AI tools
- Backend & API architecture for AI-powered platforms
- Multi-user systems (auth, roles, data storage)
- Billing, packaging, and pricing for AI products
- AI product lifecycle: validation → launch → iteration

Key Skills: AI product management, No-code/full-stack prototyping, Business model design for SaaS, Growth thinking for AI apps, Technical product leadership.

Each Track Includes:

1. Simulated client project
2. In-depth training on principles and best practices
3. Peer reviews and iteration cycles

Outcome: Students build portfolio-ready projects that demonstrate their niche expertise

POST-TRACK PATHWAYS

Transition from learner to builder or job-ready professional.

- **Accelerator Program:** Support to build and launch AI products or services - **3 Months**
- **Job Placement Pool:** Opportunities for internships, freelance, or full-time roles - **1-2 Months**
- **Other Pathways:** Coaching, mentoring, or community leadership, **3 Months**

By the End of This Program, Students Will Be Able To:

- Diagnose business problems and propose AI-powered workflows
- Design and deploy LLM and RAG systems with no-code tools
- Build and orchestrate AI agents to perform multi-step tasks
- Integrate external APIS and automation platforms like **Make and n8n**
- Package and present their work to clients or employers

Total Duration: 16 weeks of structured learning + optional accelerator (4–12 weeks)

Note: Regular standups, feedback sessions, soft skills workshops, and portfolio check-ins are integrated throughout the program to support real-world readiness.