AI for Product Managers

Module 1: Strategic Product Leadership in GenAI

Topics:

- GenAI market opportunity identification
- Defining product vision and value proposition
- Roadmapping for AI-driven features (OKRs, RICE frameworks)
- Business case development and stakeholder alignment

Tools & Deliverables:

- Product roadmap templates
- PRDs
- Canvas frameworks

Module 2: Architecture & Technical Foundations

Topics:

- Overview of GenAI system components (RAG pipelines, agentic systems, modular services)
- Core ML/LLM building blocks: transformers, embedding's, fine-tuning
- Definition of EC2/GPU/CPU configurations for deployment

Tools & Deliverables:

- Architecture diagrams
- Compute sizing worksheets
- Model feasibility assessments based on systems architecture principles

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Module 3: Data & Retrieval Pipeline Design

Topics:

- Data ingestion, chunking, and preprocessing of unstructured content
- Embedding generation, vector indexing, and similarity search
- Vector database evaluation: Pinecone, Milvus, Weaviate, Chroma (trade-offs in latency, scaling, cost)

Tools & Deliverables:

- Data flow diagrams
- Evaluation matrices
- ADRs for DB selection

Module 4: Agentic AI Workflow & Multi-Agent Design

Topics:

- Agent orchestration paradigms — chain-of-thought, dynamic router, collaborative agents
- Breaking down user goals into multi-step pipeline execution
- Error fallback logic and recovery strategies

Tools & Deliverables:

- Agent workflow prototypes
- Orchestration flowcharts
- ADRs for workflow decisions

Module 5: MLOps, Deployment & Monitoring Architecture

Topics:

- CI/CD pipelines, version control, production deployment strategies
- Model drift detection, latency monitoring, hallucination metrics, observability
- A/B testing, rollback strategies, artifact tracking for system resilience

Tools & Deliverables:

- Deployment pipeline blueprints
- Dashboard mock-ups
- Monitoring ADRs

Module 6: Ethics, Governance & Operational Reliability

Topics:

- Designing for bias mitigation, explainability, safety, and accountability
- Regulatory frameworks and compliance checkpoints
- Logging, auditability, governance patterns embedded in architecture

Tools & Deliverables:

- Bias audit checklist
- Governance policy drafts
- ADRs for ethical design choices

Module 7: Execution, Communication & Stakeholder Alignment

Topics:

- Architecture-to-executive storytelling — translating visual and technical designs for leadership
- Making and defending trade-off decisions (cost, scale, latency, safety)
- Cross-functional team collaboration and handoff alignment

Tools & Deliverables:

- Stakeholder presentation decks
- Decision trade-off summaries
- Live executive simulation

Module 8: Capstone Project — End-to-End System Design

Project Brief:

- Choose a real-world use case (e.g., customer support assistant, enterprise knowledge bot)
- Develop:
    - Full product strategy
    - Architecture blueprint (compute, data, agentic flows)
    - Deployment plan
    - Governance framework
- Present architecture and roadmap to a mock executive panel
- Justify decisions with ADRs