AI Buildng blocks

1

Core AI Capabilities

INCLUDES:

- LLMs (Large Language Models)
- IMAGE RECOGNITION
- IMAGE GENERATION
- MULTIMODAL MODELS
- “CLASSIC ML”
- TEXT-TO-SPEECH (TTS)
- SPEECH-TO-TEXT (ASR)
  automatic speech recognition

Business Functions Involved: Product Management, Marketing, Legal & Compliance

Why: These capabilities power customer-facing features and require alignment with brand, compliance, and product strategy.

2

Model Development & Adaptation

INCLUDES:

- FINE-TUNING
  task-specific model training
- LoRA/Adapters/PEFT
  parameter-efficient fine-tuning
- PROMPT ENGINEERING
  crafting effective inputs for models
- RAG (RETRIEVAL-AUGMENTED GENERATION)
  combining LLMs with external knowledge

Business Functions Involved: Data Science, Domain Experts , IT/Data Engineering

Why: These blocks require deep understanding of business context and technical execution to ensure relevance and performance.

3

Reasoning & Orchestration

INCLUDES:

- CHAIN OF THOUGHT
  step-by-step reasoning in LLMs
- MULTI-MODAL COT / MCP
  reasoning across modalities using step-by-step logic
- TOOL USE / FUNCTION CALLING
  LLMs calling external tools or APIs
- AGENTS / PLANNING
  LLMs reasoning over time or interacting iteratively
- MEMORY / CONTEXT MANAGEMENT
  retaining or simulating long-term knowledge

Business Functions Involved: Operations, Engineering, Customer Support

Why: These components simulate decision-making and automation, so business processes must be mapped and validated.

4

Infrastructure & Deployment

INCLUDES:

- VECTOR DATABASES
  for semantic search and memory
- EMBEDDINGS
  numerical representations of content
- MODEL SERVING
  hosting models with APIs (e.g., vLLM, Triton)
- DATA PIPELINES
  preprocessing, labeling, and model training flows

Business Functions Involved: IT/DevOps, Security & Governance, Finance

Why: These are foundational layers that impact performance, cost, and risk — requiring cross-functional oversight.