Large Action Models (LAM)
From Language Understanding to Secure Action Execution

Abstract

Large Action Models (LAMs) represent the next evolution of artificial intelligence systems. While Large Language Models (LLMs) excel at reasoning and language generation, they lack the ability to perform real-world actions. LAMs bridge this gap by securely translating user intent into governed, auditable actions across tools, APIs, and software environments.

1. Introduction

Enterprise workflows increasingly require automation that goes beyond recommendations. Modern development, operations, and compliance teams need systems that can safely execute tasks while maintaining control and traceability. Large Action Models enable this transition.

2. LLMs vs LAMs

Capability	LLM	LAM
Natural language understanding	Yes	Yes
Multi-step planning	Limited	Yes
Tool / API execution	No	Yes
Policy enforcement	No	Yes
Auditability	No	Yes
Enterprise governance	No	Yes

3. LAM Architecture

A Large Action Model is composed of layered components that transform intent into controlled execution. Each layer has a clearly defined responsibility.

Layer	Description
User Interface	Captures intent, displays plans, approvals, and results
Intent Understanding	Parses goals, constraints, and context
Planning & Reasoning	Decomposes tasks and sequences actions

Policy & Governance	Applies permissions, security rules, and compliance checks
Action Execution	Runs approved actions in sandboxed environments
Observation & Feedback	Monitors execution, handles errors, retries
Audit & Logging	Records all decisions and actions for compliance

4. Security-First Design

Because LAMs can perform actions, they are designed with stronger security guarantees than traditional AI systems. Key principles include least-privilege execution, explicit approvals, sandboxing, and full audit trails.

5. Local-First Execution

In a local-first model, actions are executed on the user’s machine by default. Sensitive code and data remain local, reducing exposure and improving compliance while maintaining optional cloud integration.

Conclusion

Large Action Models represent a shift from AI assistance to AI execution. By combining language intelligence with policy-driven, auditable action-taking, LAMs enable enterprises to unlock productivity without compromising trust or security.