



# Fully Autonomous Job Search + Auto-Apply AI Agent for Students

A fully autonomous AI agent that searches, personalizes, and applies to jobs — safely.

Team: The Thinking Triangle

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# The Problem: Manual Mayhem in Job Applications



- Students manually apply to hundreds of jobs.
- Repetitive form-filling and low personalization.
- "Spray & pray" approach leads to poor outcomes.
- Existing tools are often:
  - Not truly autonomous.
  - Not grounded in factual data.
  - Unsafe at scale, risking credential fabrication.



# Our Objective: Safe, Scalable Autonomy



## End-to-End Autonomous Applications

No per-application human approval  
needed.



## Zero Fabricated Credentials

Strict grounding in actual student  
data.



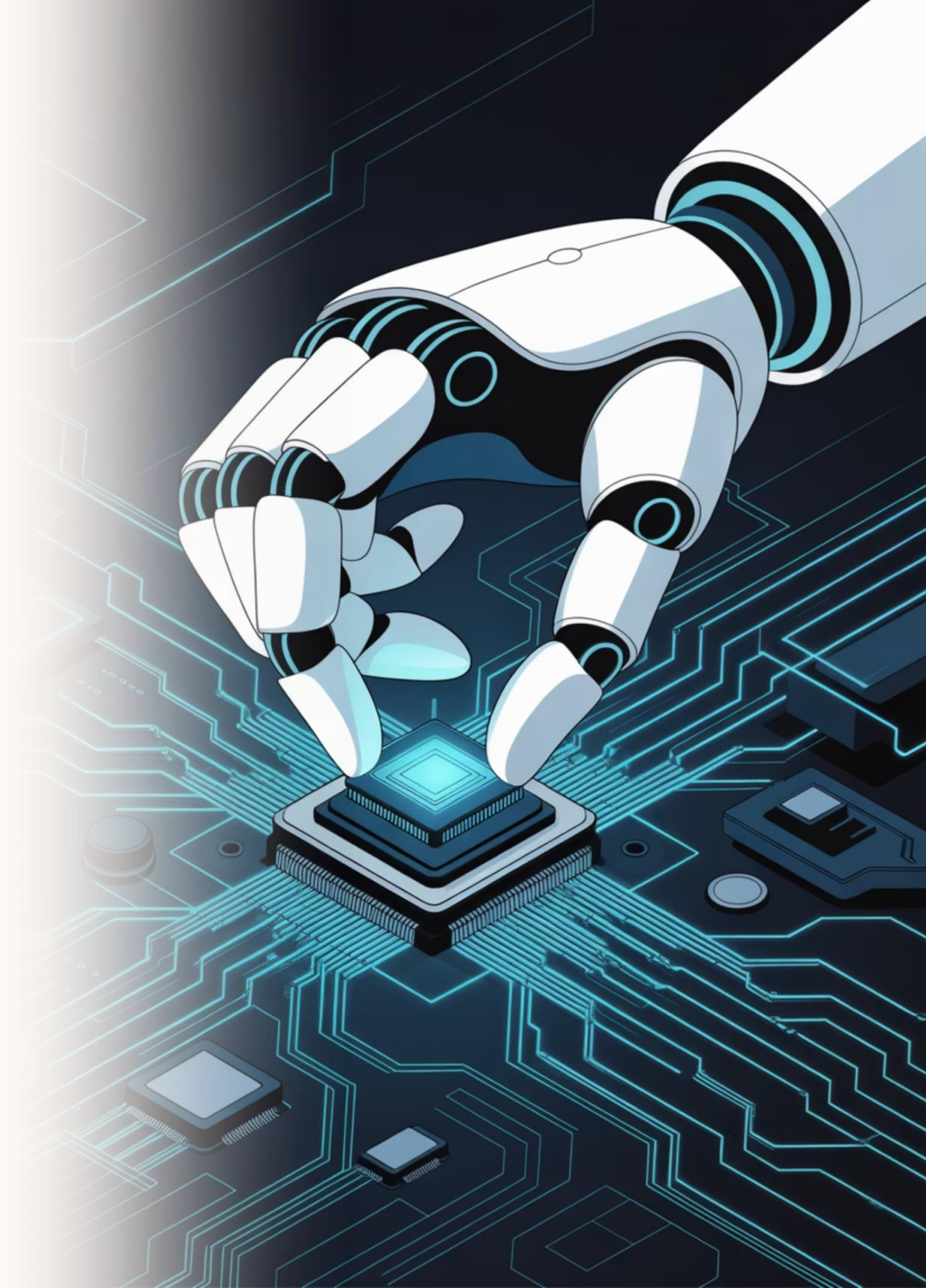
## Policy-Controlled Autonomy

Explicit rules define agent behavior  
and limits.

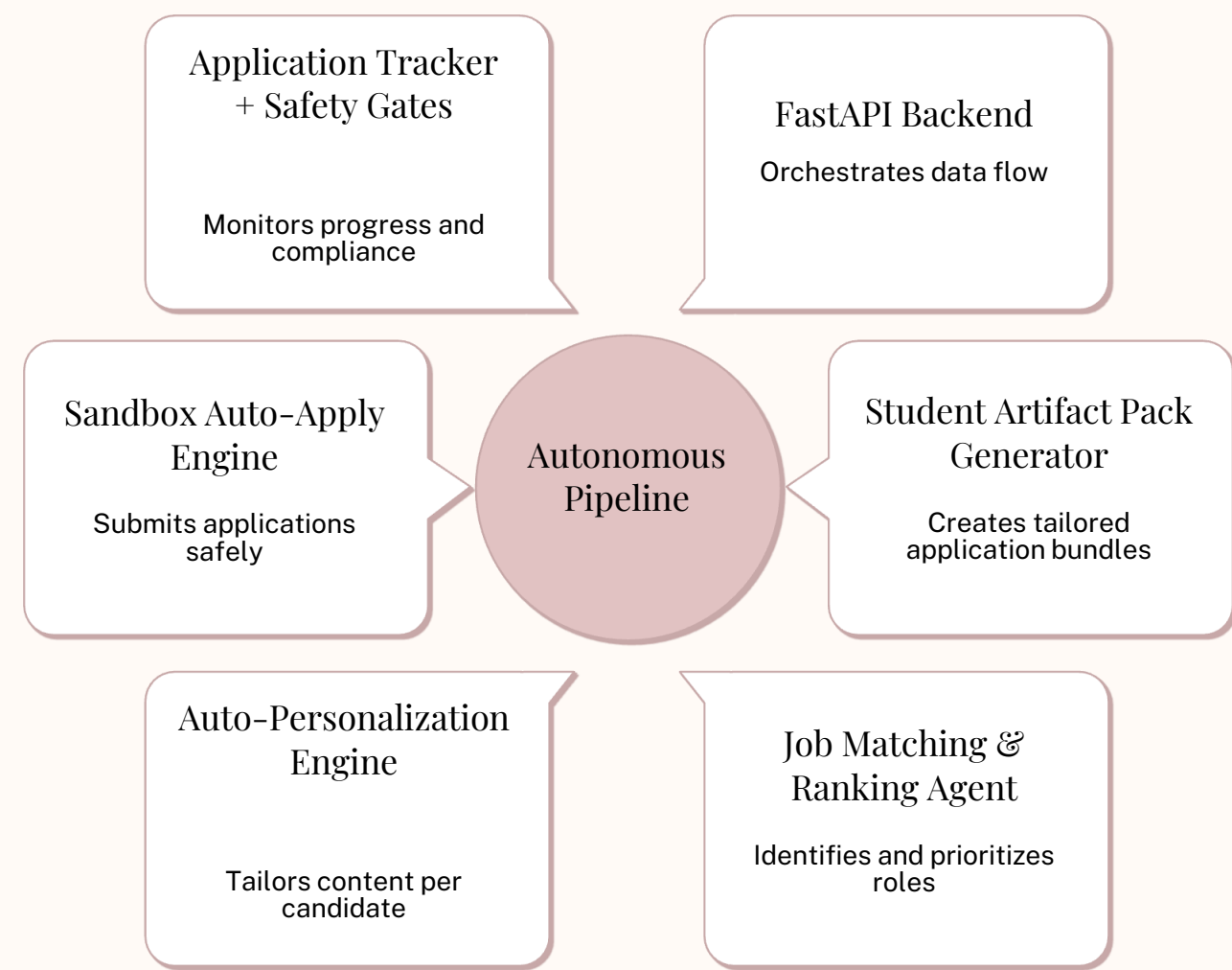


## Real-World Scalable System

Designed for robust, efficient  
operation.



# High-Level Architecture: The Autonomous Pipeline



Our system operates as a cohesive pipeline, ensuring data integrity and control at each stage, all orchestrated by a FastAPI backend.

# Student Artifact Pack Generator

**CAREEROS**  
STATUS: OPERATIONAL

STEP 1/4

CONFIG\_INPUT

GEMINI API KEY \*

Paste Key...

Upload Resume (PDF)

GITHUB USERNAME (OPTIONAL)

username

PORTFOLIO URL (OPTIONAL)

https://yourportfolio.com

START EXTRACTION

Backed by /analyze API

## Inputs:

- Resume (PDF)
- LinkedIn text (optional)
- GitHub username (optional)
- Portfolio URL (optional)

## Outputs:

- Structured ArtifactPack (Pydantic model)
- Facts-only student profile: skills, projects, links, constraints.



Hard Rule: No hallucinated experience or metrics.



# Job Dataset & Preprocessing

- Jobs loaded from `jobs.json`, simulating a real job board.
- Each job includes: requirements, experience level, `automation_allowed` flag.
- Non-automatable jobs are filtered out before matching.
- System tracks job statistics via `/jobs/stats` endpoint.

📌 Emphasizing a controlled demo environment with a realistic job board simulation for accurate testing.

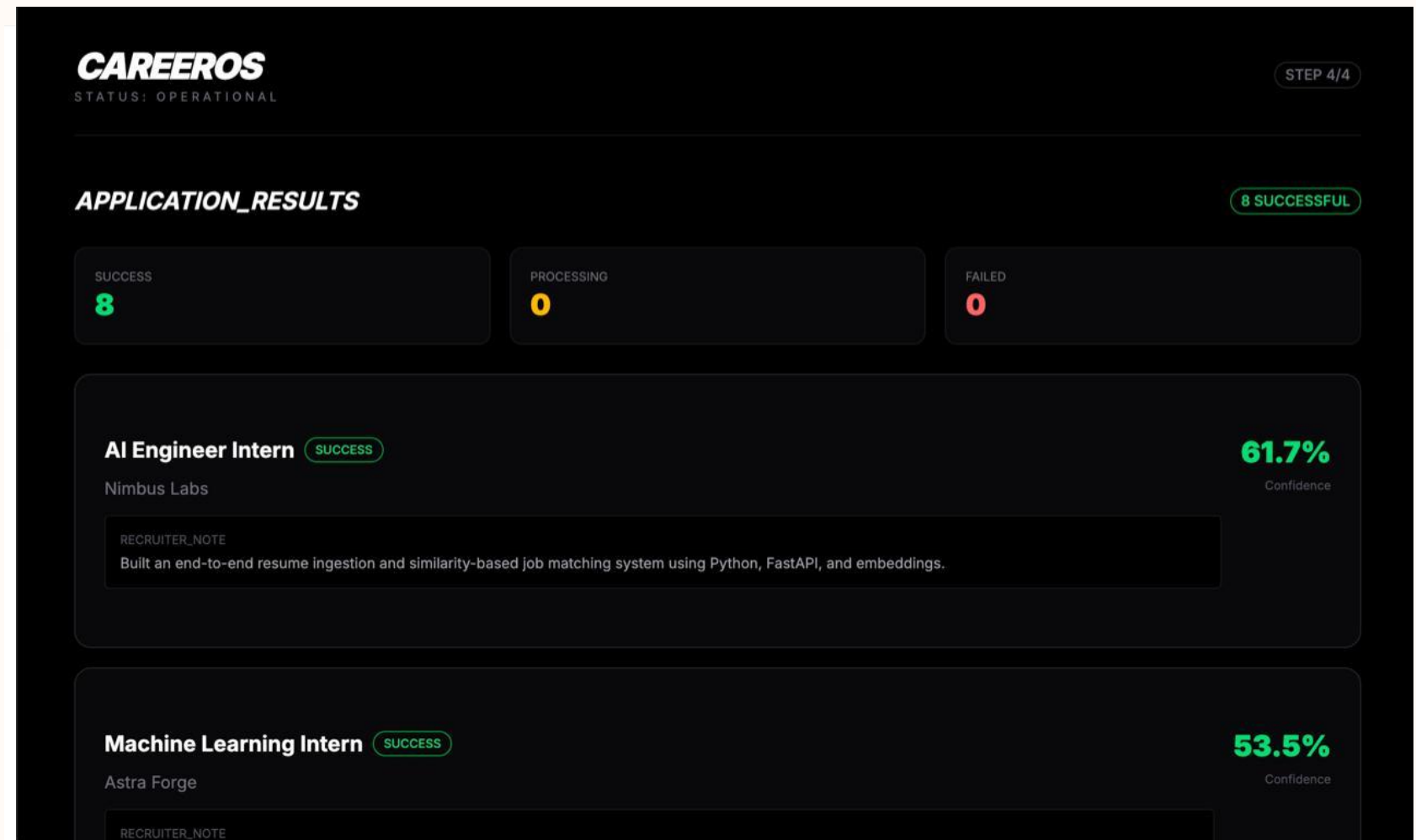
# AI Job Matching & Ranking Agent

Powered by `/match-jobs-ai`

- Semantic similarity (AI embeddings) identifies relevant roles.
- Skill overlap scoring ensures technical fit.
- Constraint compatibility filters for preferences.
- A minimum similarity threshold is enforced for quality matches.

Output: Ranked Apply Queue (30+ jobs) with match scores and explanations.

This is the system's "targeting brain."





# Auto-Personalization Engine

Backed by `/generate-short-notes-from-queue`

1

## Recruiter-Specific Notes

Generates unique short notes for each job, tailored to the specific recruiter.

2

## Grounding in Artifacts & Requirements

Notes are strictly grounded in the ArtifactPack and job requirements. No generic or invented claims.

3

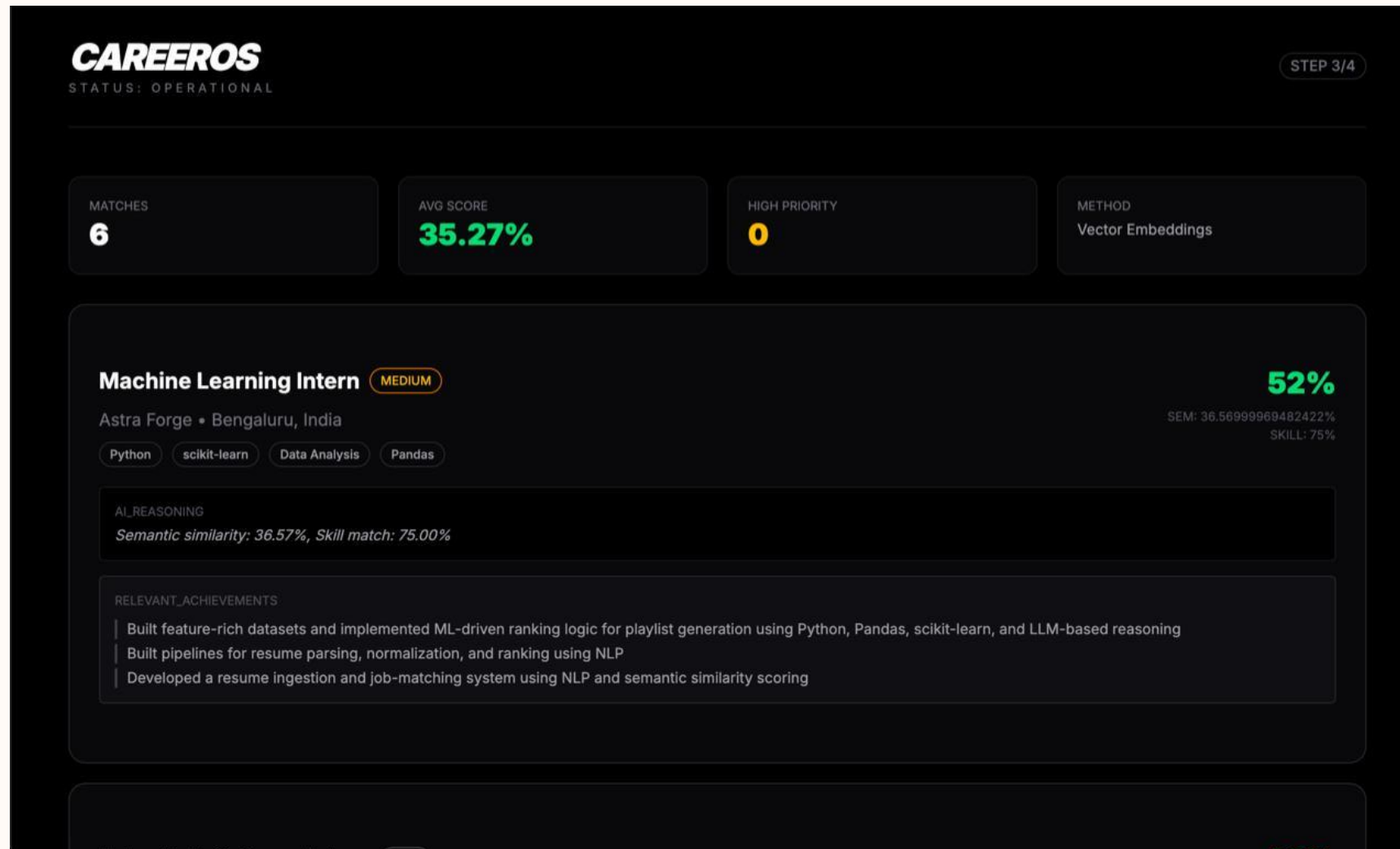
## Requirement » Evidence Mapping

Produces explicit mapping, offering proof-backed personalization for every application.





# Sandbox Auto-Apply Engine



Backed by /sandbox-apply-batch

- Agent auto-submits applications, simulating real-world behavior.
- Enforces automation\_allowed as a critical safety gate.
- Confidence scores calculated per job, indicating application strength.
- Handles various application states: success, processing, and failure.

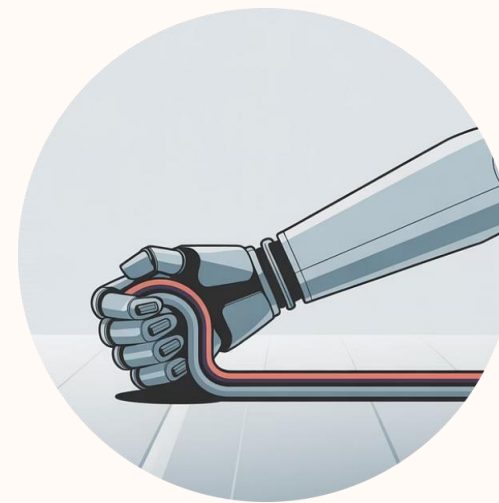
Output: Application signals per job, confidence scores, and detailed logged results.

# Safety & Autonomy Controls: Safe by Design



## Hard Safety Gates

- `automation_allowed` check prevents unauthorized applications.
- Minimum match thresholds ensure quality and relevance.
- Grounded recruiter notes check prevents fabrication.



## Autonomy Constraints

- Agent cannot apply outside defined policy parameters.
- No hallucinated skills or experience are ever generated.
- Kill-switch logic is embedded for immediate control.

Result: **Safe-by-design autonomy** ensures responsible and trustworthy operation at scale.