



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.

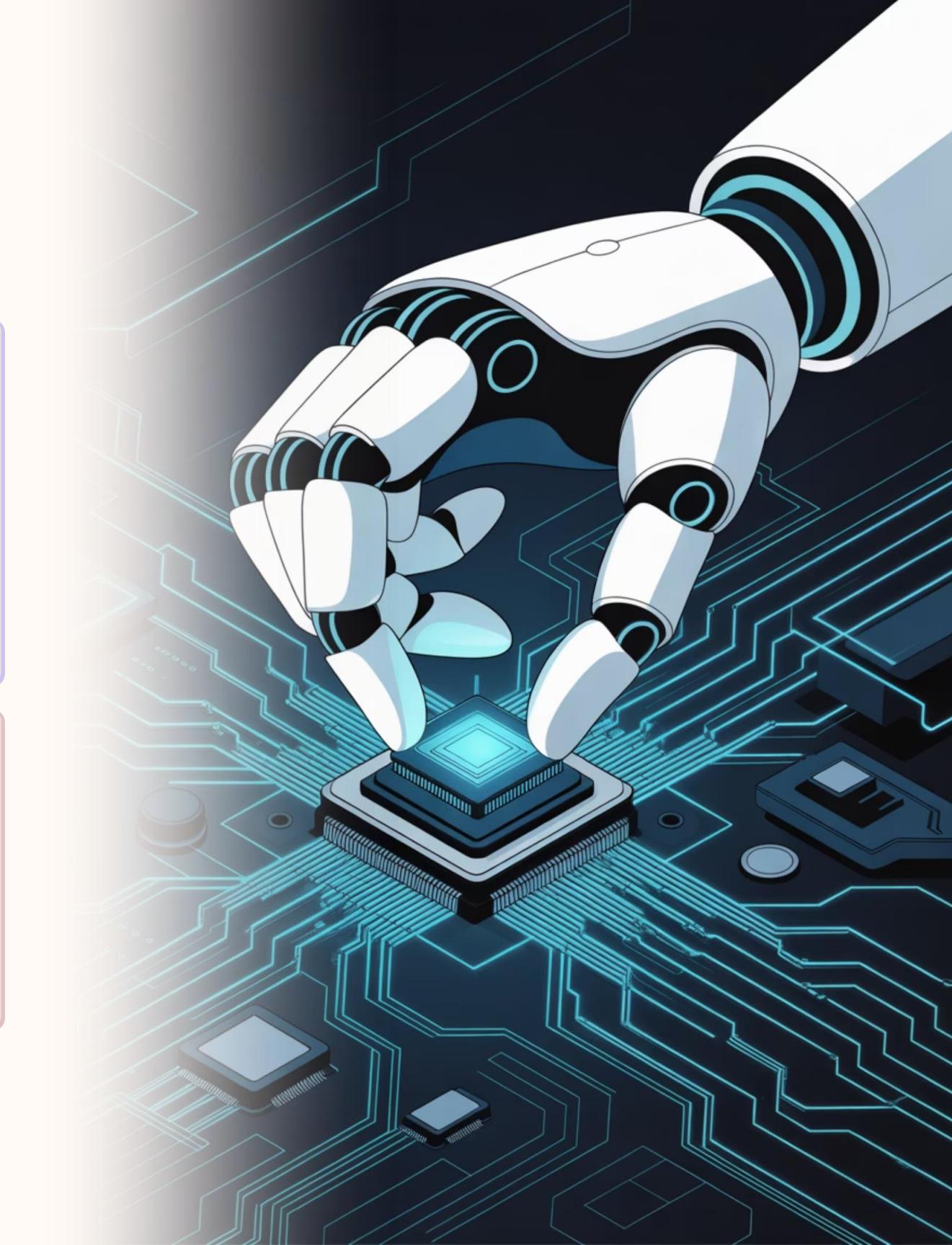


Policy-Controlled Autonomy

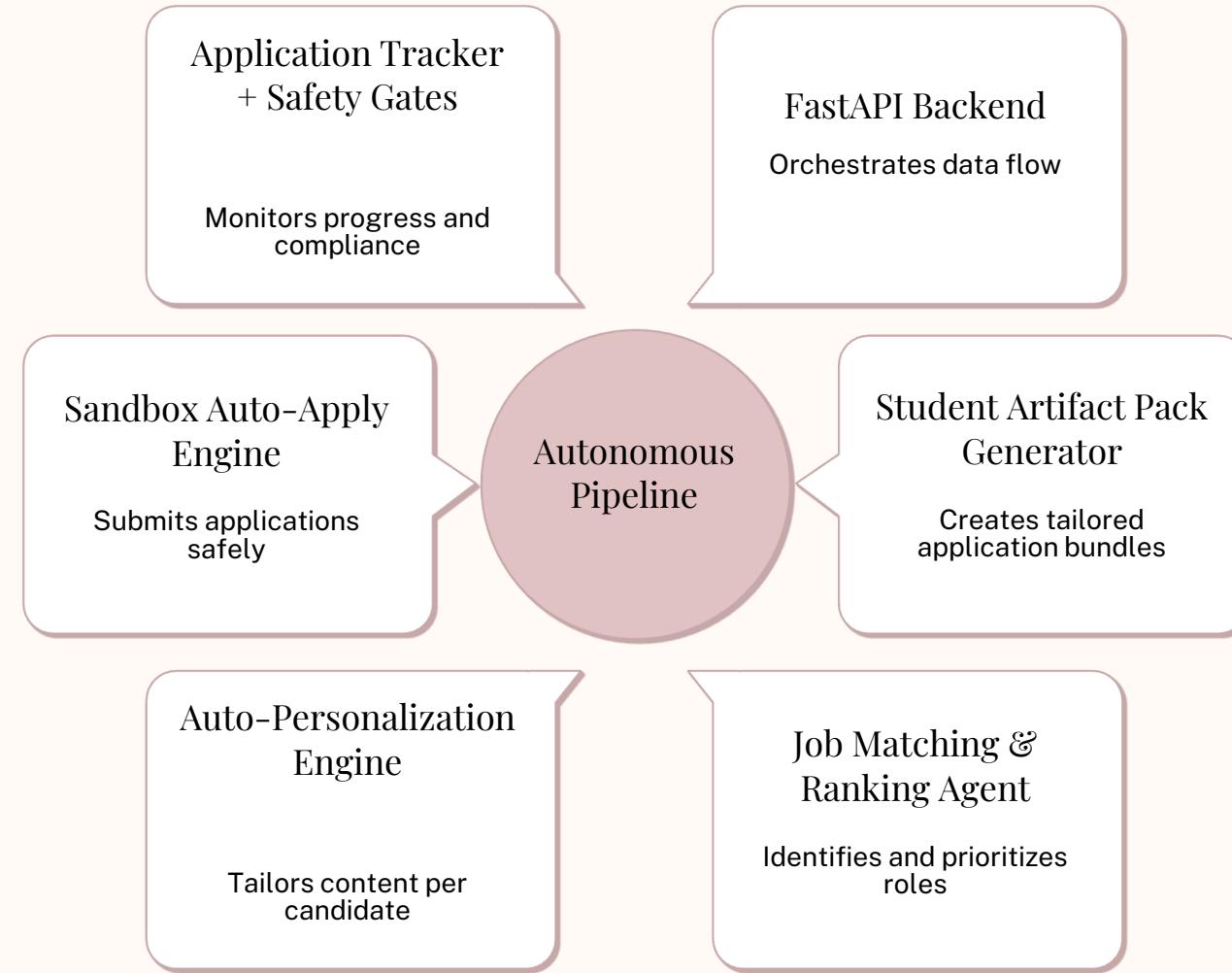
Explicit rules define agent behavior and limits.



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

The screenshot shows a dark-themed web application interface for generating a student artifact pack. At the top left is the CAREEROS logo with the status "OPERATIONAL". At the top right is a circular progress bar labeled "STEP 1/4". The main area contains several input fields:

- A "CONFIG_INPUT" section with a "GEMINI API KEY *" field containing placeholder text "Paste Key...".
- An "Upload Resume (PDF)" field with a dashed border and an upward arrow icon.
- Optional fields: "GITHUB USERNAME (OPTIONAL)" with an input field containing "username" and "PORTFOLIO URL (OPTIONAL)" with an input field containing "https://yourportfolio.com".
- A large, prominent "START EXTRACTION" button at the bottom.

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.

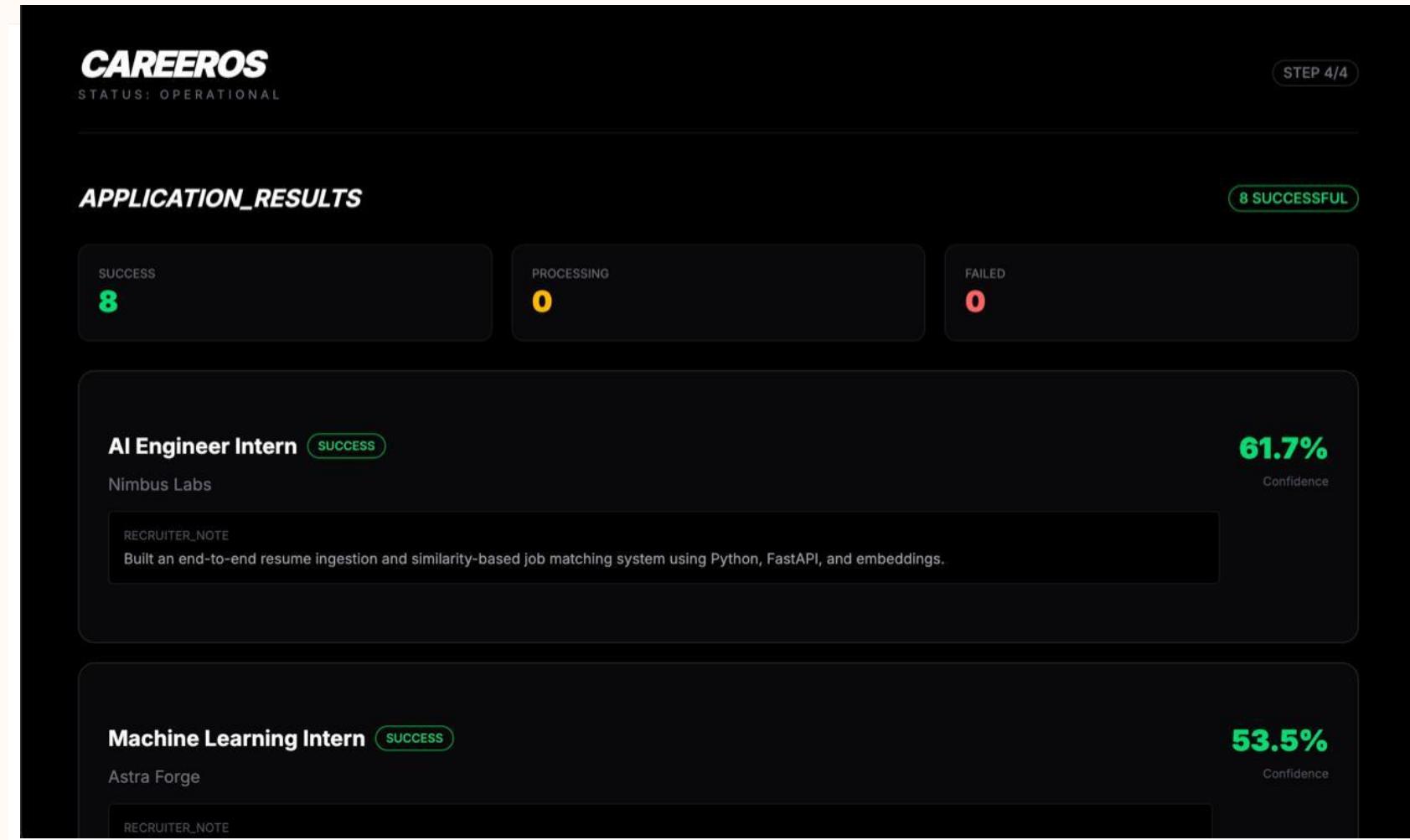
AI Job Matching & Ranking Agent

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

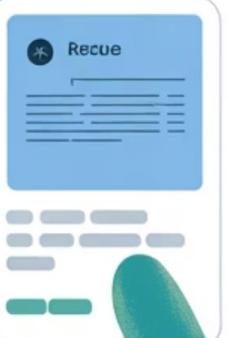
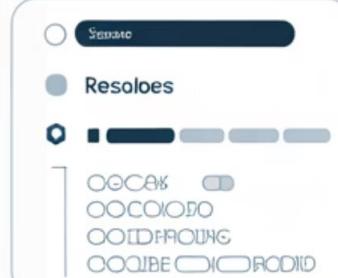
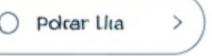
Produces explicit mapping, offering proof-backed personalization for every application.

Ai Jotouer

Drift reduction

Efficiency

OOD-JOB



Sandbox Auto-Apply Engine

The screenshot shows a dark-themed user interface for CAREEROS. At the top left is the CAREEROS logo with the text "STATUS: OPERATIONAL". At the top right is a circular progress bar labeled "STEP 3/4". Below the header are four status boxes: "MATCHES 6", "AVG SCORE 35.27%", "HIGH PRIORITY 0", and "METHOD Vector Embeddings". The main content area displays a job listing for a "Machine Learning Intern" at "Astra Forge • Bengaluru, India". The job has a "MEDIUM" level of difficulty. It includes a "52%" confidence score, "SEM: 36.56999969482422%", and "SKILL: 75%". Below the job title are skill tags: Python, scikit-learn, Data Analysis, and Pandas. A section titled "AI_REASONING" shows "Semantic similarity: 36.57%, Skill match: 75.00%". Another section titled "RELEVANT_ACHIEVEMENTS" lists: "Built feature-rich datasets and implemented ML-driven ranking logic for playlist generation using Python, Pandas, scikit-learn, and LLM-based reasoning", "Built pipelines for resume parsing, normalization, and ranking using NLP", and "Developed a resume ingestion and job-matching system using NLP and semantic similarity scoring".

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.

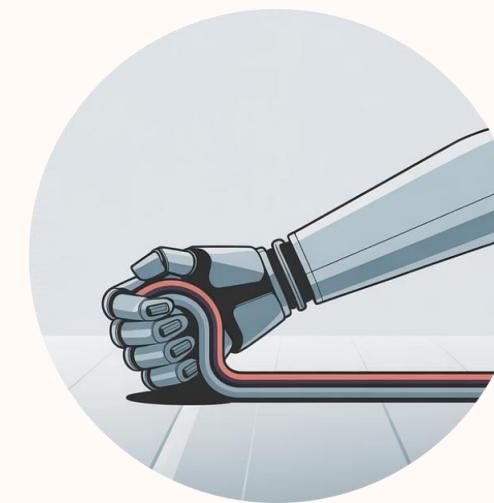
Output: Application signals per job, confidence scores, and detailed logged results.

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.