Backend Agent Workflow & Logic
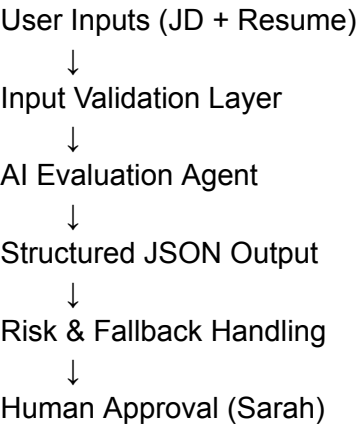
Recruit-AI Backend Agent Workflow

Overview

Recruit-AI uses an **agent-style backend workflow** where the AI acts as a **decision-support system**, not an autonomous decision maker. The architecture is designed to reduce recruiter cognitive load while preserving human control.

Agent Workflow Diagram

Workflow Diagram

User Inputs (JD + Resume)
        ↓
Input Validation Layer
        ↓
AI Evaluation Agent
        ↓
Structured JSON Output
        ↓
Risk & Fallback Handling
        ↓
Human Approval (Sarah)

FastAPI `0.1.0` `OAS 3.1`

/openapi.json

default   ∧

| GET | / Root | 📋 ∨ |

| POST | /analyze Analyze Candidate | ∧ |

Parameters   Cancel   Reset

No parameters

Request body *required*   application/json   ∨

Edit Value | Schema

```
{
    "job_description": "Frontend Developer withstrong experience in React, JavaScript,REST APIs,component-based architecture, and UI-focused development.",
    "resume": "4 years building React applications,strong JavaScript skills,REST API integrations, UI-heavy dashboards, reusable component libraries."
}
```

```
Curl

curl -X 'POST' \
  'http://127.0.0.1:8000/analyze' \
  -H 'accept: application/json' \
  -H 'Content-Type: application/json' \
  -d '{
  "job_description": "Frontend Developer withstrong experience in React, JavaScript,REST APIs,component-based architecture, and UI-focused development.",
  "resume": "4 years building React applications,strong JavaScript skills,REST API integrations, UI-heavy dashboards, reusable component libraries."
}'
```

Request URL

```
http://127.0.0.1:8000/analyze
```

Server response

Code	Details
200	Response body

```
{
  "score": 50,
  "fit": "Uncertain",
  "summary": "AI evaluation failed. Manual review recommended.",
  "recommendation": "Review",
  "final_decision": "Pending Sarah's approval",
  "error": "Error code: 429 - {'error': {'message': 'You exceeded your current quota, please check your plan and billing details. For more information on this error, read the docs: https://platform.openai.com/docs/guides/error-codes/api-errors.', 'type': 'insufficient_quota', 'param': None, 'code': 'insufficient_quota'}}"
}
```

Response headers

```
access-control-allow-credentials: true
access-control-allow-origin: *
content-length: 482
content-type: application/json
date: Sun,21 Dec 2025 05:38:54 GMT
server: uvicorn
```

Responses

Code	Description	Links
200	Successful Response	No links

Media type

application/json

Agent Logic Explanation

1. **Input Validation**

   - Ensures job description and resume text are present
   - Prevents malformed or empty requests

2. **AI Evaluation Agent**

   - Uses a structured prompt enforcing:
     - Mandatory skills matching
     - Conservative bias under uncertainty
     - Transferable skill consideration
   - Produces **strict JSON output**

3. **Risk & Fallback Layer**

   - Handles quota errors, malformed outputs, or AI failures
   - Returns a conservative fallback evaluation when needed

4. **Human-in-the-Loop Control**

   - AI provides a recommendation only
   - Final hiring decision explicitly remains with Sarah