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🚀 How AI Agents Can Make Our Data Pipelines Smarter (and Safer)

As part of my ongoing work in clean energy data, I built a real-time system that collects \*\*solar PV generation data for Spain\*\* every 15 minutes — synced with GitHub Actions and stored for modeling, forecasting, and optimization.

But then I asked myself a question:

💭 “What happens when the API token expires?”

Most systems break silently. They stop collecting data. The user might not notice for hours or even days — and that data is lost forever.

So I designed something better. A vision for an AI-assisted, self-healing pipeline:

✅ Automatically detects when the API token expires

✅ Sends an email request for a new token (just like I would manually)

✅ Monitors my inbox for a reply from the data provider

✅ Extracts the token using smart parsing or AI (e.g. GPT)

✅ Updates the GitHub secret automatically

✅ Triggers a backfill process to collect the missing data

This is what AI agents can do when we apply them with purpose.

They're not just “chatbots” — they’re infrastructure assistants.

They can monitor, heal, and maintain critical systems \*\*without intervention\*\*.

Right now, my agent is in the planning phase — the core system is live, and once my historical data is collected and merged, the automation layer will go live.

Clean data. Resilient pipelines. Autonomous recovery.

That’s what happens when AI meets real-world operations.

🛠️ Built in Python + GitHub Actions

📡 Powered by Red Eléctrica (ESIOS API)

🤖 Future-ready with AI email & token logic

If you’re working with APIs, real-time pipelines, or clean energy data — let’s connect!

— Amir Torbati ☀️

A diagram of a call

AI-generated content may be incorrect.