AI-ML Internship **IBM SkillsBuild**

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Report

Title:

Green Action AI Agent – A Personalized AI Assistant for Climate Action and Carbon Footprint Reduction

Introduction:

Climate change is one of the most critical challenges of our time. While global awareness has increased, many people still don't know how their daily choices affect the environment. Small actions like online shopping, daily commutes, or product usage have a long-term impact. To make a real difference, individuals need smart tools that guide and motivate them toward sustainable habits.
This project introduces **Green Action AI Agent**, a smart assistant designed to help users track their carbon footprint, get personalized eco-tips, and build green habits — all while supporting policymakers with meaningful environmental data.

Problem Statement:

Despite large-scale climate initiatives, the absence of **real-time, personalized tools** makes it hard for individuals and policymakers to take timely, informed actions. People are unaware of how their behaviors (e.g., plastic use, car travel) contribute to climate change. There is a clear gap between **climate awareness** and **climate action**, especially at the personal level.

Objective:

The goal of this project is to build an intelligent, easy-to-use AI Agent that:

- Tracks users' daily behaviours like shopping and travel
- Suggests eco-friendly alternatives
- Encourages green habits using gamification (points, badges, rewards)
- Sends weekly climate reports to users
- Provides useful, anonymized data insights to policymakers and organizations

Why This Problem?

Many people want to help the environment but don't know how to start. They may not realize the impact of their purchases or travel habits. On the other hand, governments and organizations need accurate behaviour-level data to create better climate policies.
This AI agent helps both — it makes **climate action personal for individuals** and provides **valuable data insights** to eco-organizations and governments.

Solution:

Overview:

Green Action AI Agent is a smart system that connects with apps like Gmail, Google Maps, and Amazon to analyze user activity, suggest greener alternatives, and help build climate-friendly habits. It also provides gamified motivation (like Duolingo streaks) and weekly eco-reports.

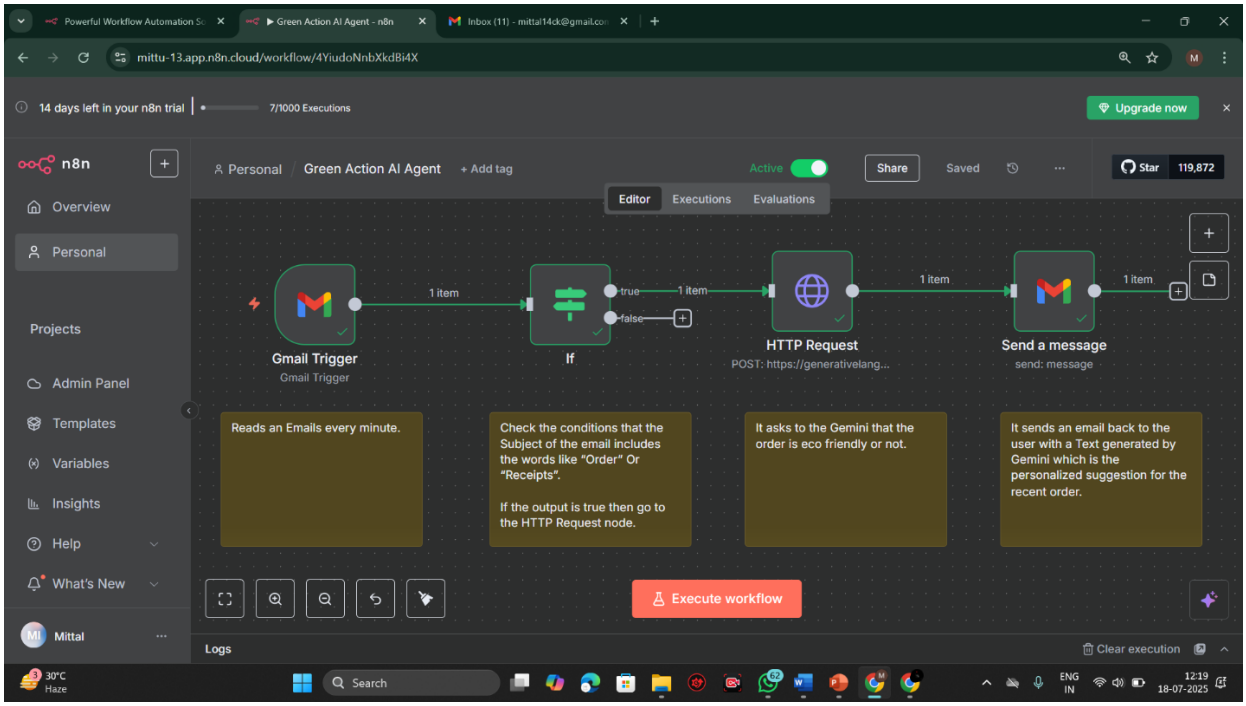
Features:

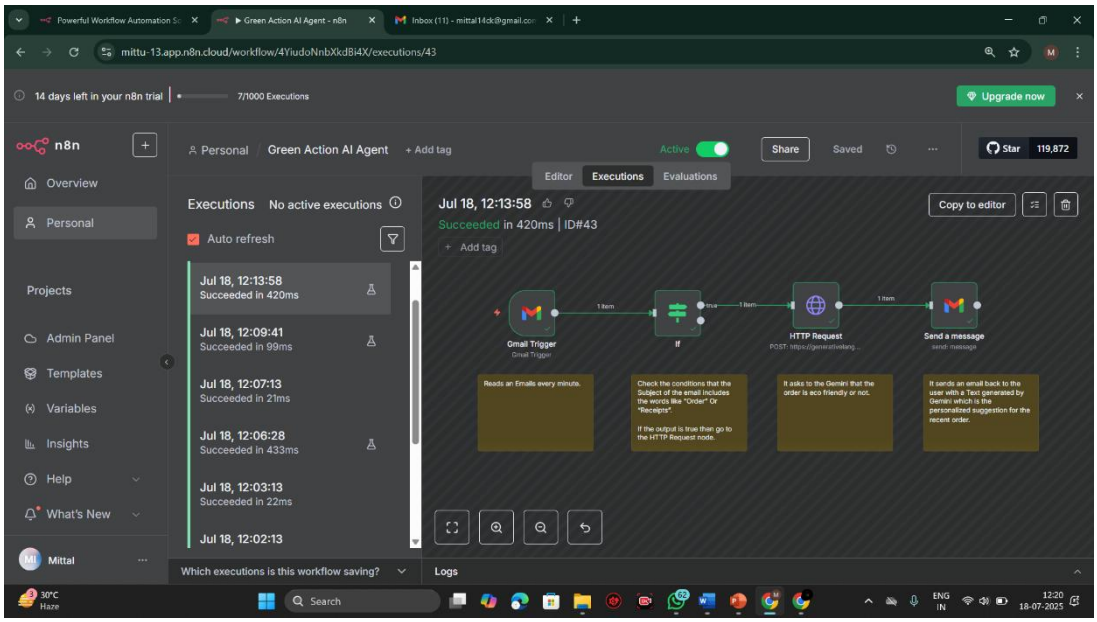
- **Personal Activity Tracking:** Reads receipts and maps data to track carbon-heavy behaviours
- **Personalized Eco Tips:** Suggests simple actions like switching to bamboo products or walking instead of driving
- **Gamified Habit Building:** Awards badges, points, and level-ups for taking green actions
- **Weekly Impact Summary:** Shows how much CO_2 was reduced and what goals were achieved

- **Behavioural Nudges:** Uses AI to recommend tips at the right time (e.g., “Buy refillable bottles this week”)
- **Data for Policymakers:** Provides anonymized trend reports to NGOs and climate agencies

➢ I use no-code tool n8n to build a fully functional prototype of my AI agent that connects to Gmail, Maps, and Amazon to track carbon-related activities and suggest eco-friendly actions. For more complex customization and AI model training, I can later move to Python-based development. But for now, this approach is enough to validate the concept and present a working solution.

Workflow:

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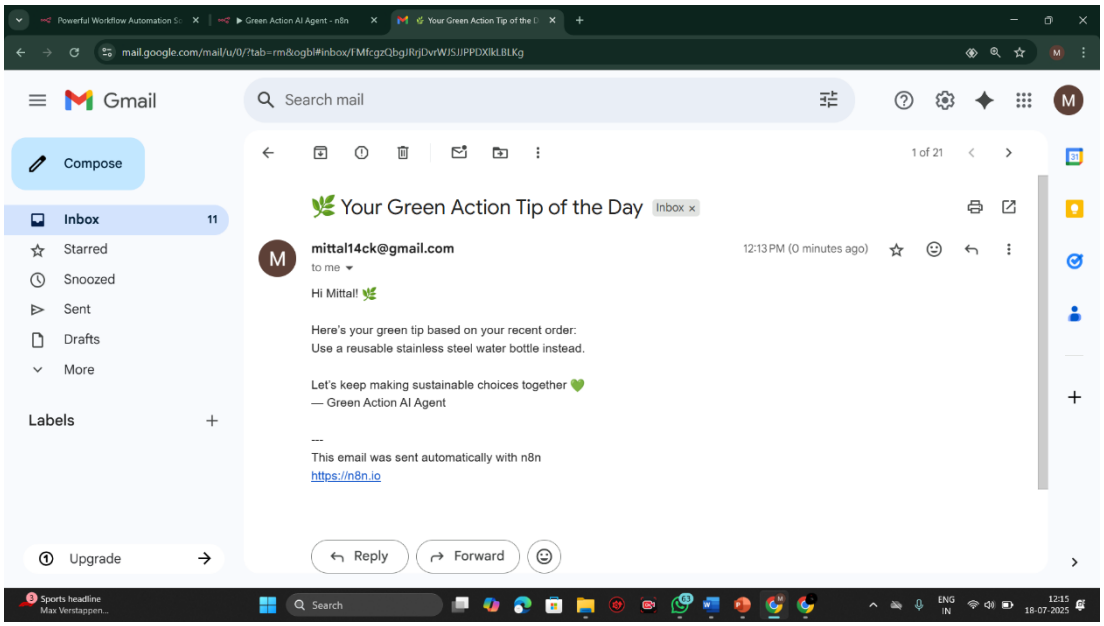
14 days left in your n8n trial
7/1000 Executions
Upgrade now
n8n
Personal
Green Action AI Agent
+ Add tag
Active
Share
Saved
Star 119,872
Overview
Personal
Projects
Admin Panel
Templates
Variables
Insights
Help
What's New
Mittal
Editor
Executions
Evaluations
Executions
No active executions
Auto refresh
Jul 18, 12:13:58
Succeeded in 420ms
Jul 18, 12:09:41
Succeeded in 99ms
Jul 18, 12:07:13
Succeeded in 21ms
Jul 18, 12:06:28
Succeeded in 433ms
Jul 18, 12:03:13
Succeeded in 22ms
Jul 18, 12:02:13
Jul 18, 12:13:58
Succeeded in 420ms | ID#43
Add tag
Copy to editor
Gmail Trigger
If
HTTP Request
Send a message
Reads an Emails every minute.
Check the conditions that the Subject of the email includes the words like "Order" Or "Receipts".
If the output is true then go to the HTTP Request node.
It asks to the Gemini that the order is eco friendly or not.
It sends an email back to the user with a Text generated by Gemini which is the personalized suggestion for the recent order.
Which executions is this workflow saving?
Logs
Search
ENG
IN
12:20
18-07-2025

OUTPUT:


mail.google.com/mail/u/0/?tab=rm&ogbl#inbox/FMfcgzQbgJRrjDvrWJSJJPPDXlkLBLKg
Gmail
Search mail
Compose
Inbox 11
Starred
Snoozed
Sent
Drafts
More
Labels
Upgrade
1 of 21
Your Green Action Tip of the Day
Inbox
mittal14ck@gmail.com
to me
12:13 PM (0 minutes ago)
Hi Mittal! 🌿
Here's your green tip based on your recent order:
Use a reusable stainless steel water bottle instead.
Let's keep making sustainable choices together 💚
— Green Action AI Agent

This email was sent automatically with n8n
https://n8n.io
Reply
Forward
Search
ENG
IN
12:15
18-07-2025

Technical Implementation:

- **Platform:** Built using no-code tool **n8n** for fast prototyping
- **APIs:** Connects with Gmail, Google Maps, Amazon to fetch user data
- **AI Model:** Uses Gemini for analyzing behaviour and generating smart suggestions
- **Logic:** Uses IF conditions and behaviour patterns to trigger eco-tips
- **Gamification Engine:** Maintains user progress, assigns points and badges
- **Dashboard:** Data stored in Airtable or Google Sheets for easy reporting and policy usage
- **Notifications:** Sends weekly summaries through email or mobile app

Why IBM Resources and Tools:

IBM SkillsBuild resources helped us understand:

- How to responsibly use AI models
- How to ensure privacy and follow ethical AI practices
- How to build cloud-based, scalable, and secure systems
  Using IBM Watson, we could process data with minimal latency and personalize AI behaviour, while also ensuring GDPR compliance for user trust.

Conclusion:

The **Green Action AI Agent** is more than just a chatbot — it's a smart partner in building a greener lifestyle. It fills the gap between awareness and action by turning daily behaviour into climate-friendly decisions. With its habit-tracking features and data insights, it not only empowers users but also supports policymakers.
By combining AI, gamification, and real-world tracking, this project shows how technology can drive meaningful change in the fight against climate change.