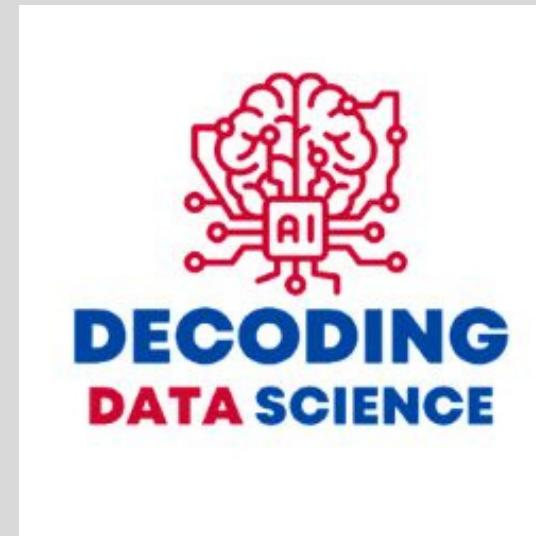


# What is an AI Agent?

Swipe →

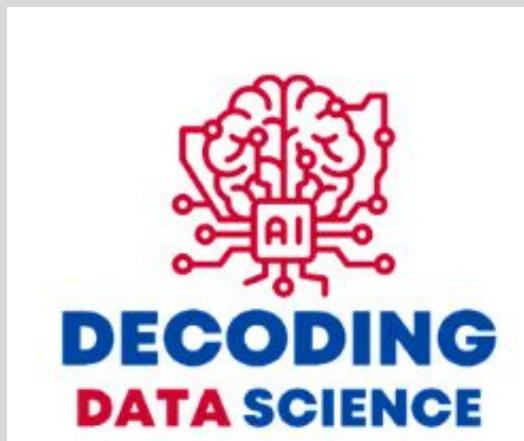
## Definition and Process Overview



# What is an AI Agent?

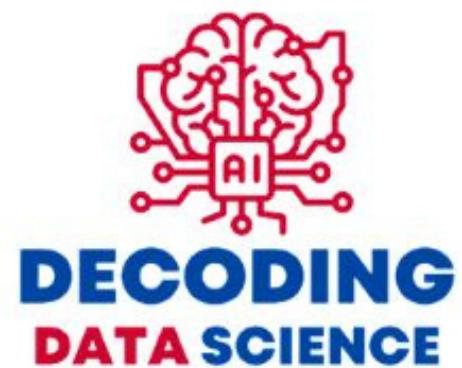
An AI agent is a computer program which can think, make decisions, and take actions autonomously to achieve specific goals

AI agents are systems designed to reason, act, and adapt dynamically to user queries.



# What is an AI Agent?

- Shift from isolated models to Compound Systems (e.g., RAG).
- Advantages:
  - Modular and flexible design.
  - Easier to adapt to evolving tasks and knowledge.
- Challenges in Traditional Models:
  - Limited knowledge base.
  - Hard to adapt to unforeseen scenarios.



# Components of an LLM Agent

- Core Functions:
  1. Reason: Logical planning and analysis.
  2. Act: Execute tasks using tools.
  3. Access Memory: Retrieve stored or historical data.
- ReAct Framework:
  - Combines reasoning and action for decision-making



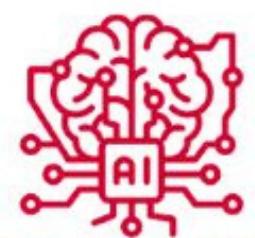
**DECODING**  
**DATA SCIENCE**

# Steps in the AI Agent Process

---

-User Query Workflow:

1. User sends a query.
2. Agent plans/thinks through the query.
3. Executes actions using tools:
  - Search Engines
  - Calculators
  - Wikipedia
  - Code Tools
  - LLMs
4. Observes the results.
5. Generates a coherent response



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A photograph of a person's hands interacting with a computer monitor. The monitor displays a dark-themed code editor with Python-like syntax. The visible code includes functions for modifying objects, selecting them, and performing operations like mirroring. The background is slightly blurred, focusing on the interaction between the hands and the screen.

```
mirror_mod = modifier_data.get("mirror_mod", None)
if mirror_mod:
    mirror_object = mirror_mod.mirror_object
    if operation == "MIRROR_X":
        mirror_mod.use_x = True
        mirror_mod.use_y = False
        mirror_mod.use_z = False
    elif operation == "MIRROR_Y":
        mirror_mod.use_x = False
        mirror_mod.use_y = True
        mirror_mod.use_z = False
    elif operation == "MIRROR_Z":
        mirror_mod.use_x = False
        mirror_mod.use_y = False
        mirror_mod.use_z = True

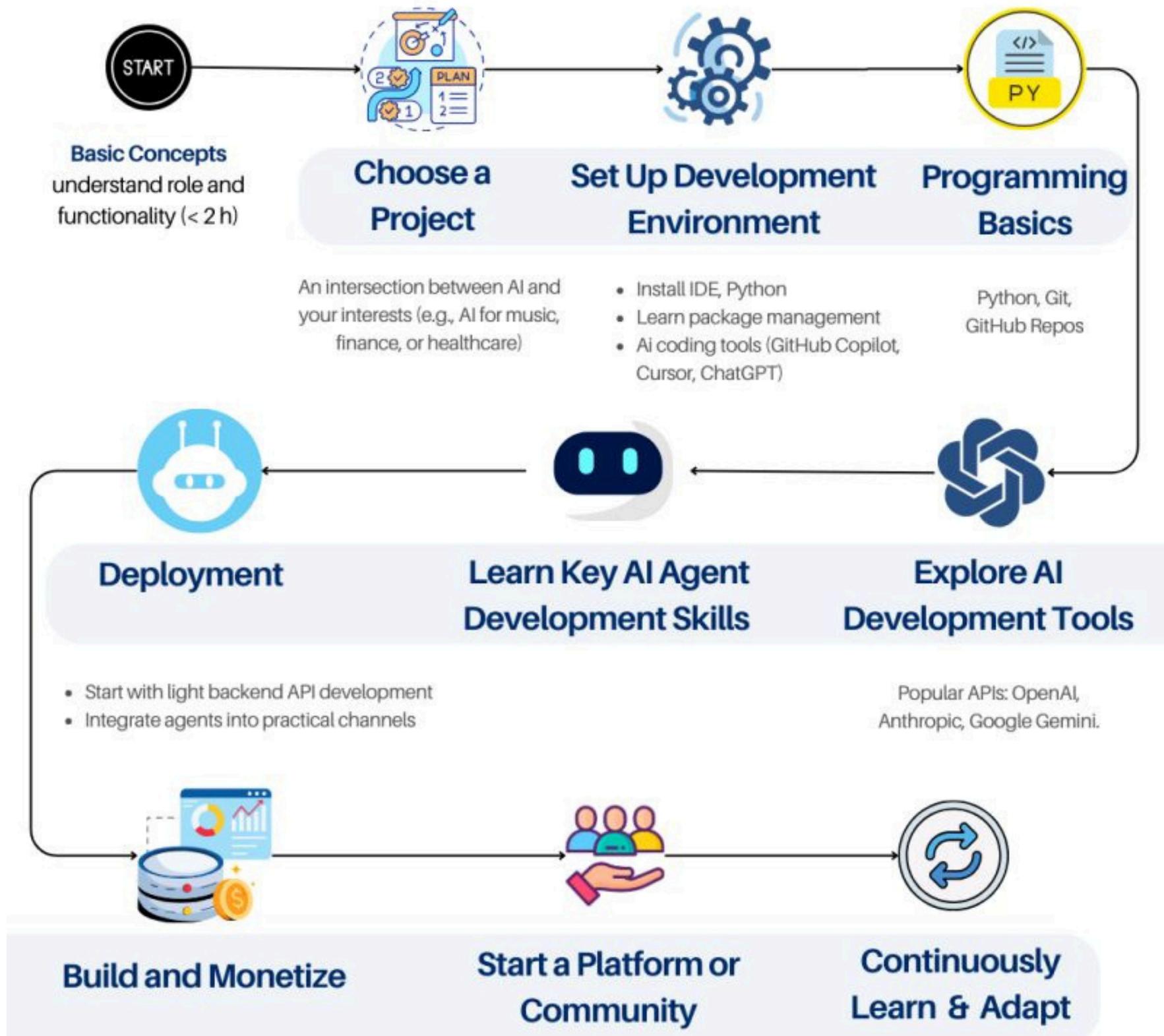
selection_at_the_end = modifier_data.get("selection_at_the_end", False)
if selection_at_the_end:
    ob.select = 1
    mirror_ob.select=1
    context.scene.objects.active = mirror_ob
    print("Selected" + str(modifier_data["name"]))
    mirror_ob.select = 0
    bpy.context.selected_objects.clear()
    data.objects[one.name].select = 1
    print("please select exactly one object")
else:
    print("please select exactly one object")

- OPERATOR CLASSES ---

@types.Operator:
class X_mirror(bpy.types.Operator):
    bl_idname = "object.mirror"
    bl_label = "X mirror to the selected object"
    bl_options = {'REGISTER', 'UNDO'}
    bl_description = "mirror X"

    @classmethod
    def poll(cls, context):
        return context.active_object is not None
```

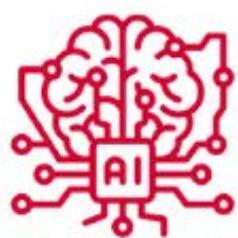
# Roadmap to Building AI Agents



Let's grow together!  
@alexwang

# Tools Used by LLM Agents

- Search: Query search engines to find data.
- Calculate: Perform mathematical computations.
- Code: Write, debug, or execute code.
- LLMs: Generate textual or conversational answers.
- APIs and Databases: Retrieve domain-specific information.

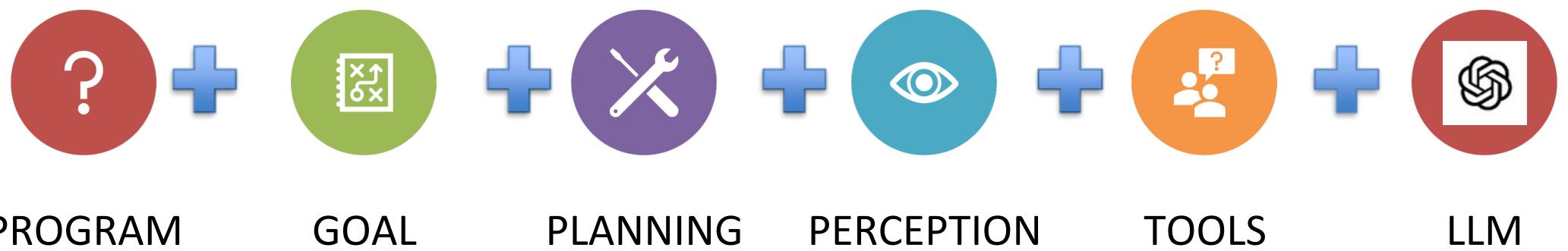


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# Control Logic of AI Agents

- Human vs. LLM Thinking:
  - Human (Pragmatic): 'Think Fast' – Intuitive decision-making.
  - LLM Agent: 'Think Slow' – Logical, deliberate reasoning.
- Compound Approach(best):
  - Combines human intuition with LLM logic for optimal outcomes.

# What is AI Agent?

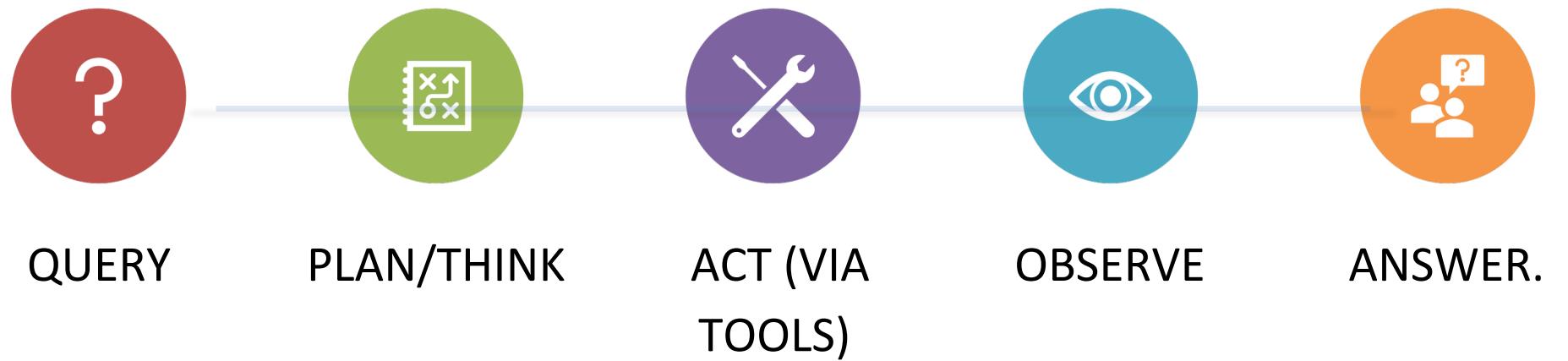


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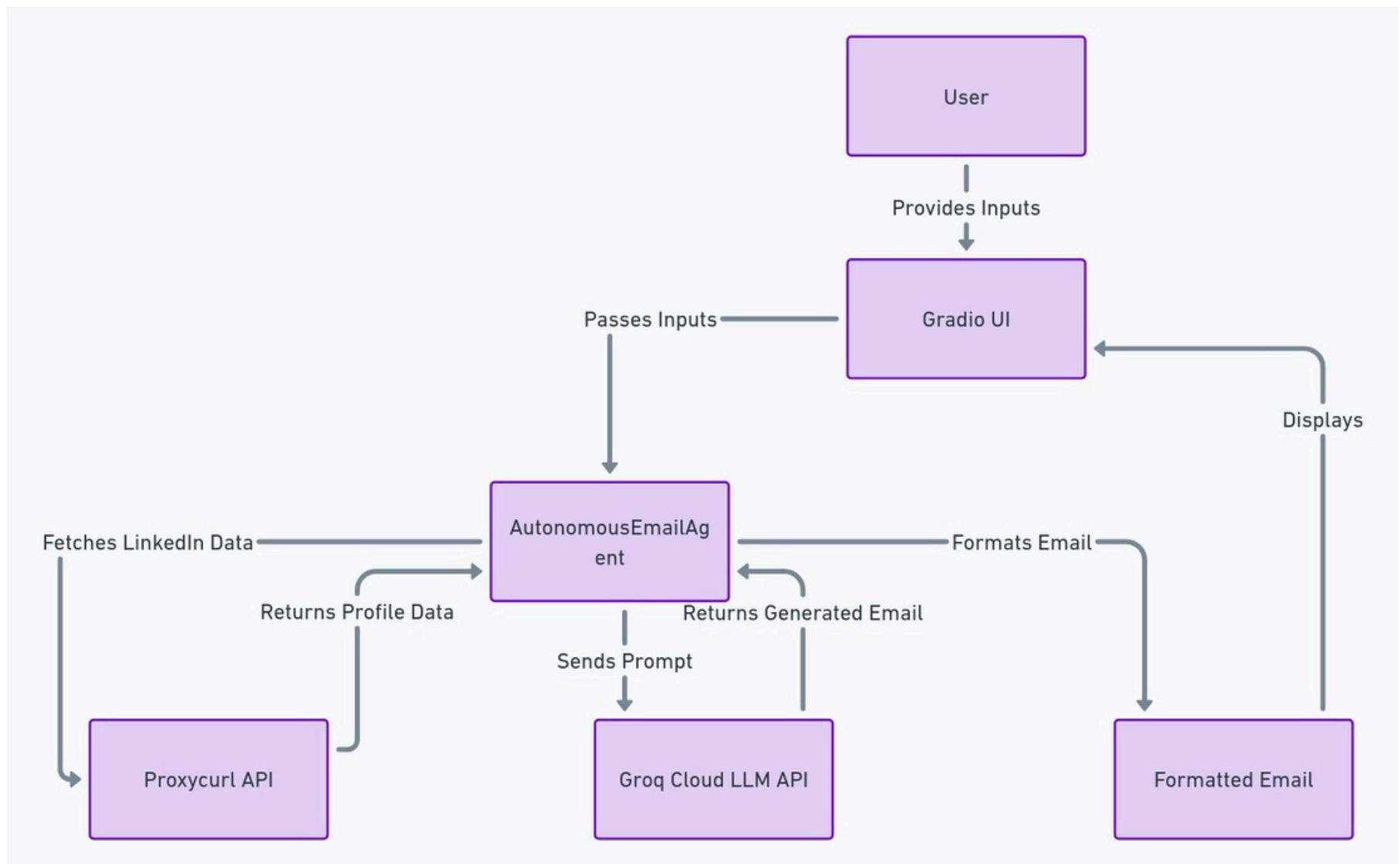
# Summary

- AI Agent: A dynamic system that combines reasoning, acting, and memory retrieval.
  - Integrates tools like search engines, calculators, and LLMs for tasks.
- Benefits:
  - Adaptability, modular design, and improved decision-making.

# PROCESS



# Cover Letter Project



What Next? Join the Free AI Community



## Artificial Intelligence

2,810 members

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Free



- Three weekly events
- Live workshops
- Knowledge Shorts 50+ Videos
- Basic AI & DS courses
- DS & AI materials
- Webinar recording
- Guidance from experts
- 24 by 7 Whatsapp & Discord
- Latest ai Discussion & More...



 [nas.io/artificialintelligence](https://realdatascience.com/service)



# Community Profile

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## What Does The Community Provide?

### Generative AI

- Generative AI (chatGPT) for Business
- Prompt Engineering for Developers
- Langchain for AI App Development
- What are Large Language Models
- Gemini MultiModal LLM

### Recordings

- 50+ Outcome-based Workshops
- 45+ AI Community Meetup Recordings
- 10+ Python Projects Videos
- AI & DS Career & Learning Webinar Series

### Data Science Courses

- Basic Excel For Data Science
- Basic SQL For AI/Data Science
- Basic Python for AI/Data Jobs
- Advanced Python for AI/DS Jobs
- Basic PowerBI for AI/Data Science
- Machine Learning
- Knowledge Shorts
- Linkedin Growth Mastery

### Resources

- Generative AI Resources
- Sample Datasets & Projects
- Sample Reviewed Resume
- Ready to use Resume Template
- Linkedin Profile Optimization
- Essential SQL Documents
- Essential Python Documents
- Machine Learning Documents

Every week we have live Zoom calls, Physical Meetups and LinkedIn Audio events and WhatsApp discussions. All calls are recorded and archived.

 [nas.io/aiguild](http://nas.io/aiguild)