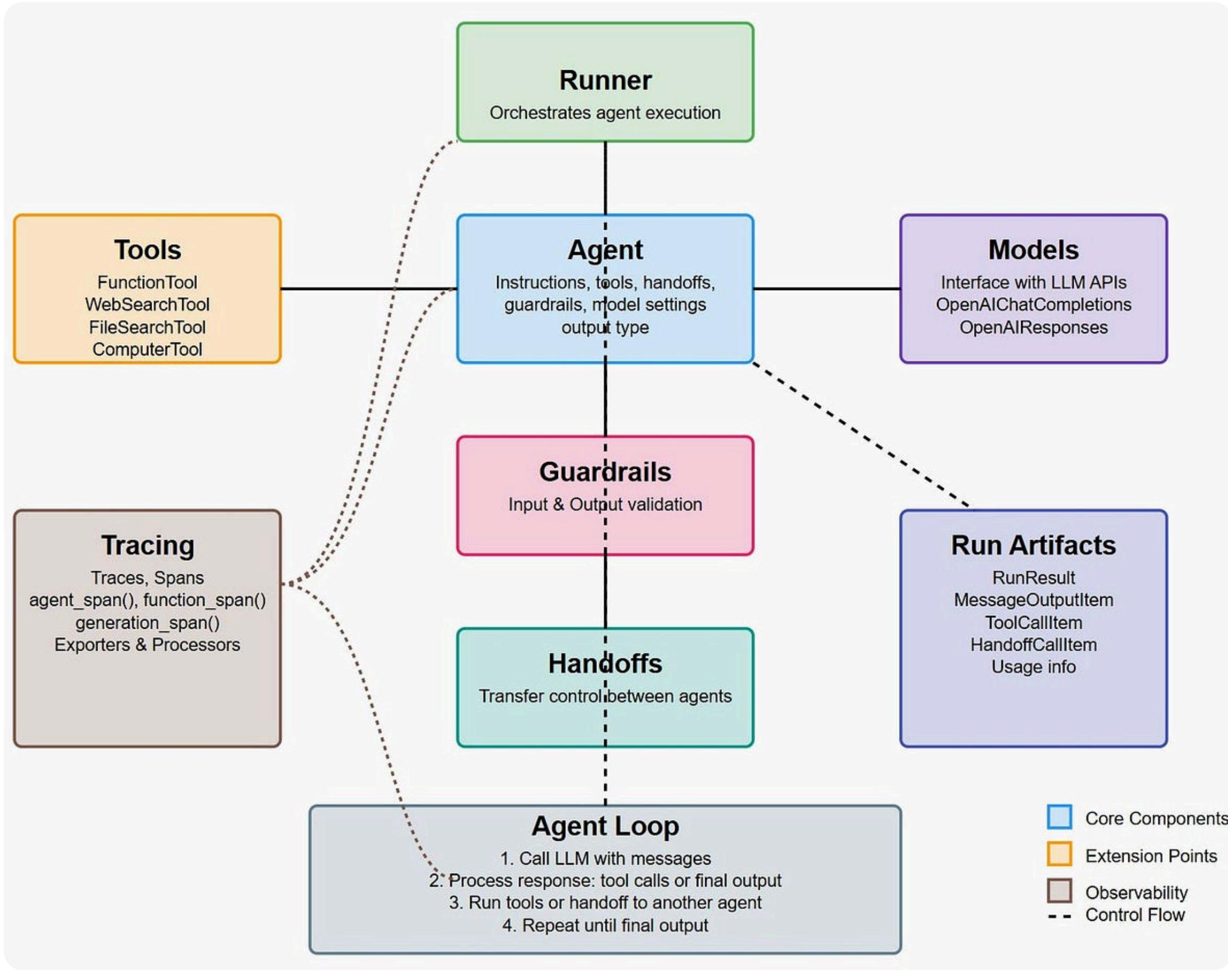


# OpenAI Agents SDK

## OpenAI Agents SDK Architecture



# Introducing the Agents SDK

Building AI agents is not just about having a powerful API—it requires efficient orchestration. This is where OpenAI's Agents SDK comes into play. The Agents SDK is an open-source toolkit that simplifies agent workflows. This agent building framework integrates seamlessly with the Responses API and Chat Completions API. Additionally, it is also compatible with models from various providers, provided they offer an API endpoint styled like Chat Completions.

Some of the key features of Agents SDK are:

- It allows developers to configure AI agents with built-in tools.
- It enables multi-agent orchestration, allowing seamless coordination of different agents as needed.
- It allows us to track the conversation & the flow of information between our agents.
- It allows an easier way to apply guardrails for safety and compliance.
- It ensures that developers can monitor and optimize agent performance with built-in observability tools.



# Build a Multi-agentic System using Agent SDK

We will build a multi-agent system that helps users with car recommendations and resale price estimation by leveraging LLM-powered agents and web search tools to provide accurate and up-to-date insights.

## Step 1: Building a Simple AI Agent

We begin by creating a Car Advisor Agent that helps users choose a suitable car type based on their needs.

```
car_advisor = Agent(  
    name="Car advisor",  
    instructions= "You are an expert in advising suitable car type like sedan, hatchback  
etc to people based on their requirements.",model="gpt-4o",)  
  
prompt = "I am looking for a car that I enjoy driving and comfortably take 4 people. I  
plan to travel to hills. What type of car should I buy?"  
  
async def main():  
    result = await Runner.run(car_advisor, prompt)  
    print(result.final_output)  
  
# Run the function in Jupyter  
await main()
```

For your requirements, an SUV (Sport Utility Vehicle) would be a great fit. Here's why:

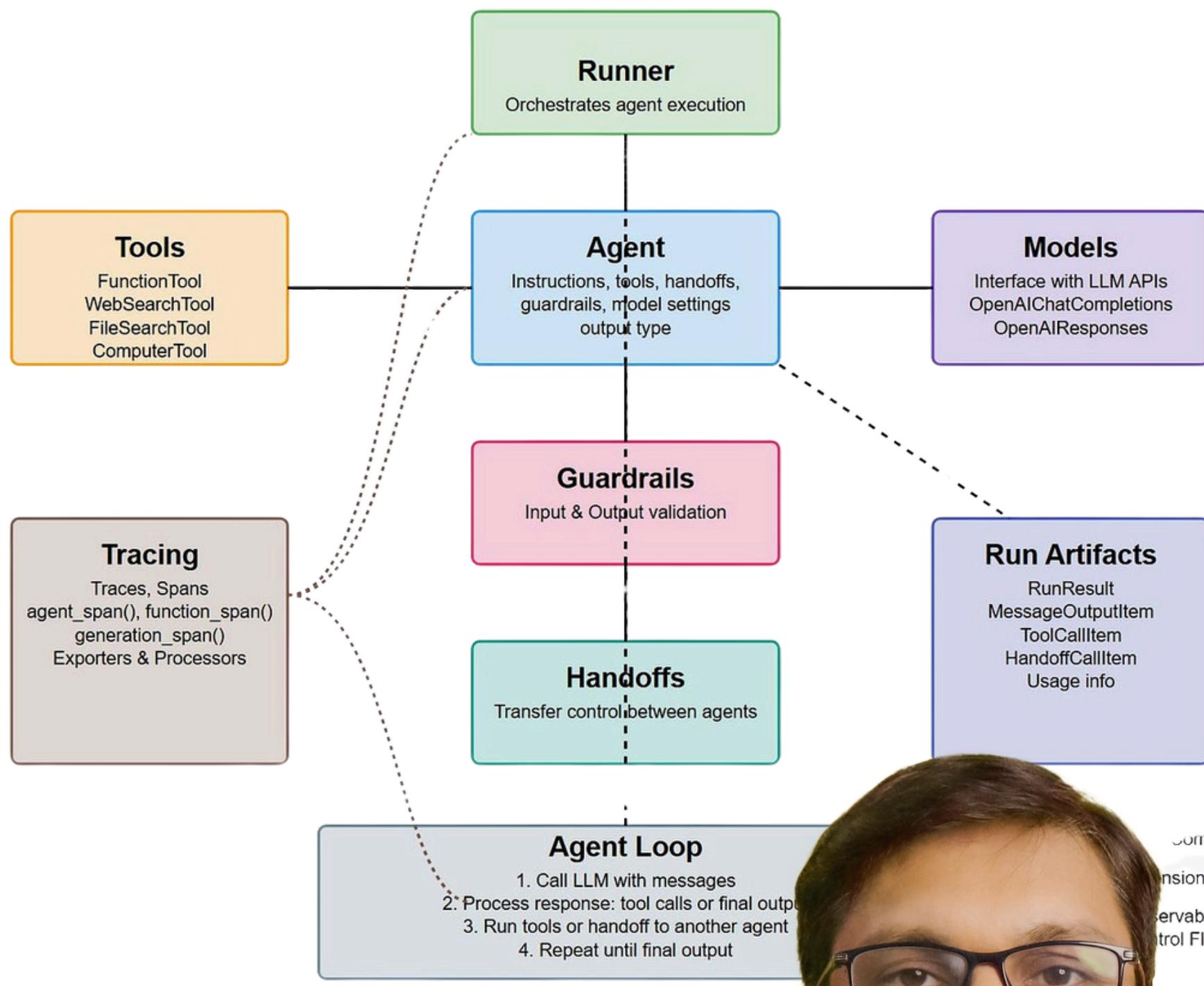
1. \*\*Comfortable Seating\*\*: SUVs generally offer spacious interiors with ample legroom and headroom, making them comfortable for four passengers.
2. \*\*Driving Enjoyment\*\*: Many modern SUVs are designed to provide a smooth and enjoyable driving experience, with powerful engines and advanced handling features.
3. \*\*Hill Travel\*\*: SUVs typically have higher ground clearance, which is beneficial for driving on uneven terrain, like hills. They often come with all-wheel-drive or four-wheel-drive options, providing better traction and stability in such conditions.

Consider models known for a good balance of comfort, performance, and off-road capability.



# Moreover, we are offering a Free Course on

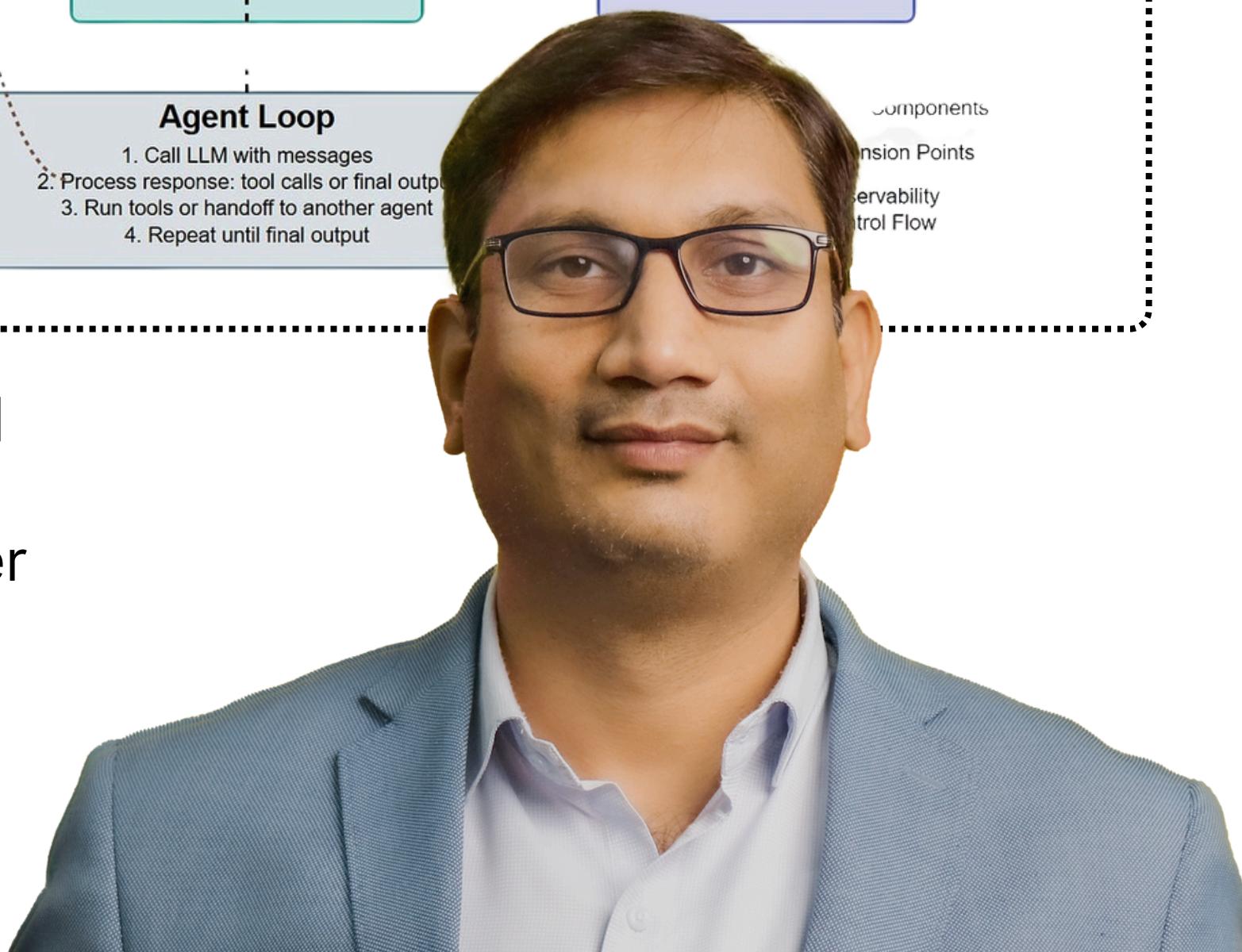
## Demystifying OpenAI Agents SDK



## Prashant Sahu

Data Science Manager  
Analytics Vidhya

**Enroll Now**



## Step 2: Build the Multi-Agent System

With the basic agent in place, we now create a multi-agent system incorporating different AI agents specialized in their respective domains. Here's how it works:

### Agents in the Multi-Agent System

- Car Sell Estimate Agent: It provides a resale price estimate based on car details.
- Car Model Advisor Agent: It suggests suitable car models based on budget and location.
- Triage Agent: It directs the query to the appropriate agent.

We will provide two different prompts to the agents and observe their outputs.



```
car_sell_estimate = Agent(  
    name="Car sell estimate",  
    instructions= "You are an expert in suggesting a suitable price of reselling a car  
    based on its make, model, year of purchase, and condition.",  
    handoff_description= "Car reselling price estimate expert",  
    model="gpt-4o",  
    tools=[WebSearchTool()]  
)
```





```

car_model_advisor = Agent(
    name="Car model advisor",
    instructions= "You are an expert in advising suitable car model to people based on
their budget and location.",
    handoff_description= "Car model recommendation expert",
    model="gpt-4o",
    tools=[WebSearchTool()])
)

triage_agent = Agent(
    name = "Triage Agent",
    instructions="You determine the appropriate agent for the task.",
    model = "gpt-4o",
    handoffs=[car_sell_estimate, car_model_advisor]
)

# Prompt 1:

prompt = "I want to sell my Ecosport car in New Delhi. It is 3 years old and in good
condition. 50000Km. What price should I expect?"

async def main():
    result = await Runner.run(triage_agent, prompt)
    print(result.final_output)

# Run the function in Jupyter
await main()

```

# Output

Based on current listings in New Delhi, a 3-year-old Ford EcoSport with approximately 50,000 km in good condition is typically priced between ₹6.5 lakh and ₹8.5 lakh. For example:

- A 2020 Ford EcoSport Titanium 1.5L TDCi with 67,242 km is listed at ₹8.36 lakh. ([carwale.com](https://www.carwale.com/used/delhi/ford-eco-sport/6okcqmt7/?utm\_source=openai))
- A 2021 Ford EcoSport Titanium 1.5L Ti-VCT with 27,000 km is listed at ₹8.65 lakh. ([carwale.com](https://www.carwale.com/used/delhi/ford-eco-sport/memucaqj/?utm\_source=openai))

Given your vehicle's mileage and condition, you can expect a resale value in this range. Factors such as specific model variant, maintenance history, and market demand can influence the final price.





```
prompt = "I want to buy a high acceleration car, comfortable for 4 people for 20 lakhs in New Delhi. Which car should I buy?"
```

```
async def main():
    result = await Runner.run(triage_agent, prompt)
    print(result.final_output)

# Run the function in Jupyter
await main()
```

# Output

Based on your requirements and budget of 20 lakhs in New Delhi, here are a few options you might consider:

1. \*\*Hyundai i30 N Line\*\*: Known for its sporty performance and high acceleration, it also offers a comfortable ride for four people.
2. \*\*Volkswagen Polo GTI\*\*: Offers a great balance of acceleration and comfort with a well-designed interior.
3. \*\*Honda City 1.5 RS\*\*: This is known for its smooth driving experience and comfortable seating, suitable for city and highway driving.
4. \*\*Skoda Rapid Monte Carlo\*\*: Offers a sporty character with a comfortable and spacious interior.

These options provide a good mix of speed and comfort within your budget. Be sure to check the availability and specific features with local dealers.

We got the car options as per our requirements! The implementation was simple and quick. You can use this agentic framework to build agents for travel support, financial planning, medical assistance, personalized shopping, automated research, and much more.