



Google Developer Group
Ho Chi Minh City

Architecting Deep Research Pipelines with Multi-Agent Systems and Gemini 2.0

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Build  with AI

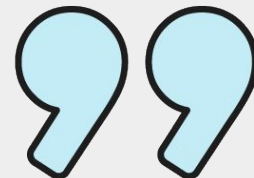


Preparation



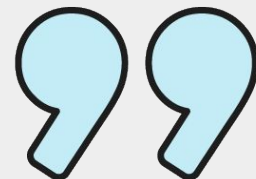
You'll need:

- Lab [link](#)
- Google cloud account, Vertex AI Enabled
- [NREL API key](#)





Deep Research





Understanding Multi-Agent EV Infrastructure Analysis



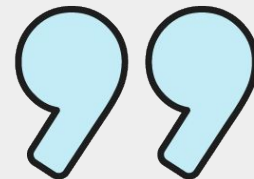
Explore EV data across U.S. cities



Leverage multiple LLM-powered agents

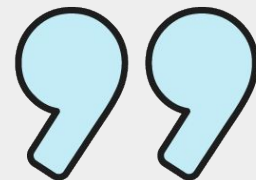


Automate planning, analysis, reporting, and visualization



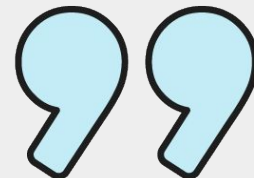
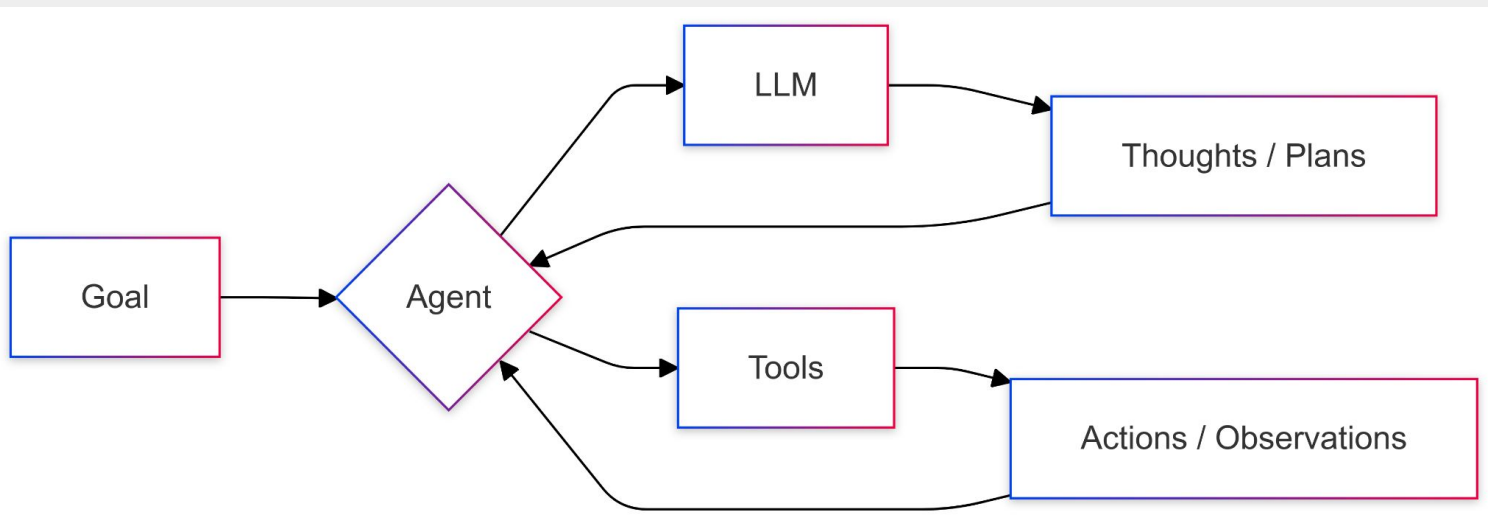


LLM Execution (The Foundation)



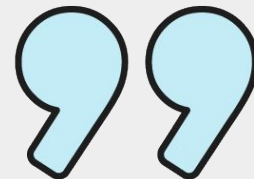
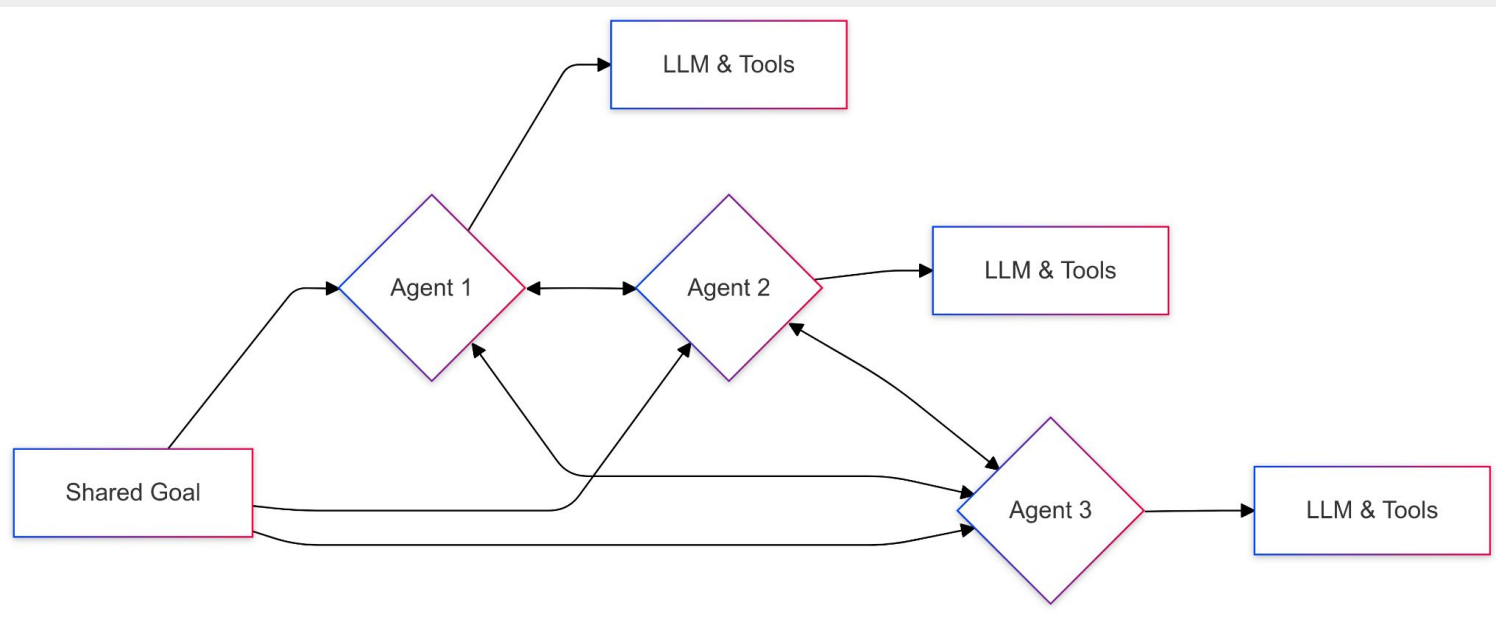


Agent (LLM with a Purpose)



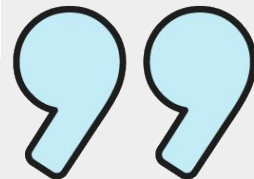
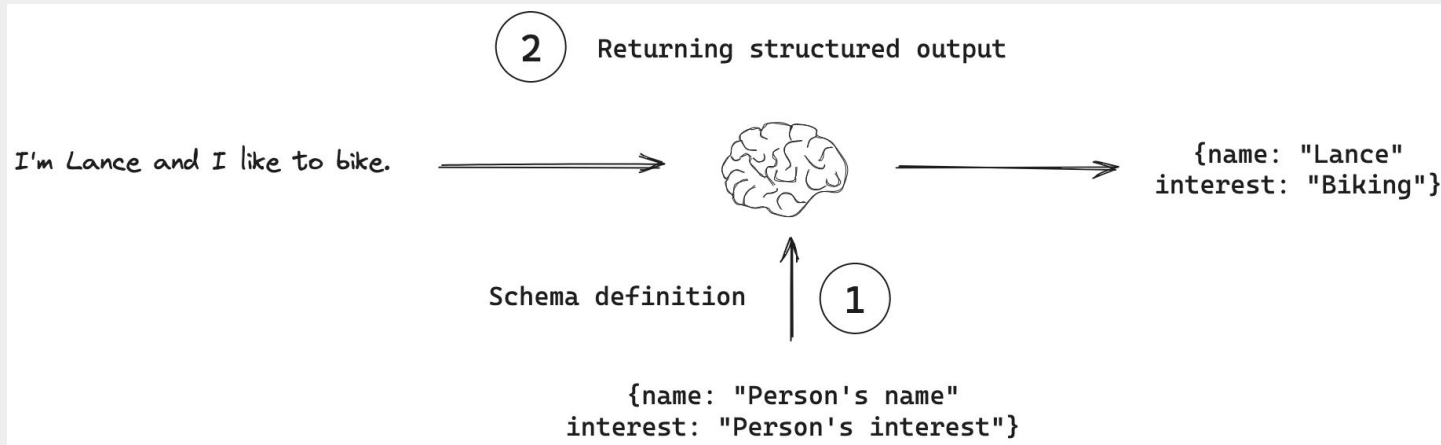


Multi-Agent



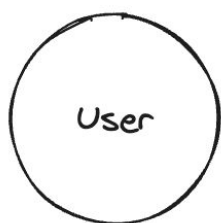


Structured Output/ Controlled Generation

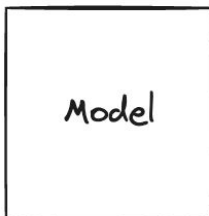




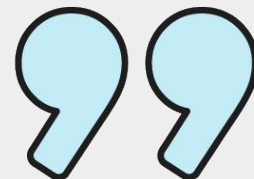
Function/Tool call



What's the weather
in Hawaii?

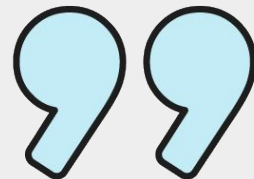
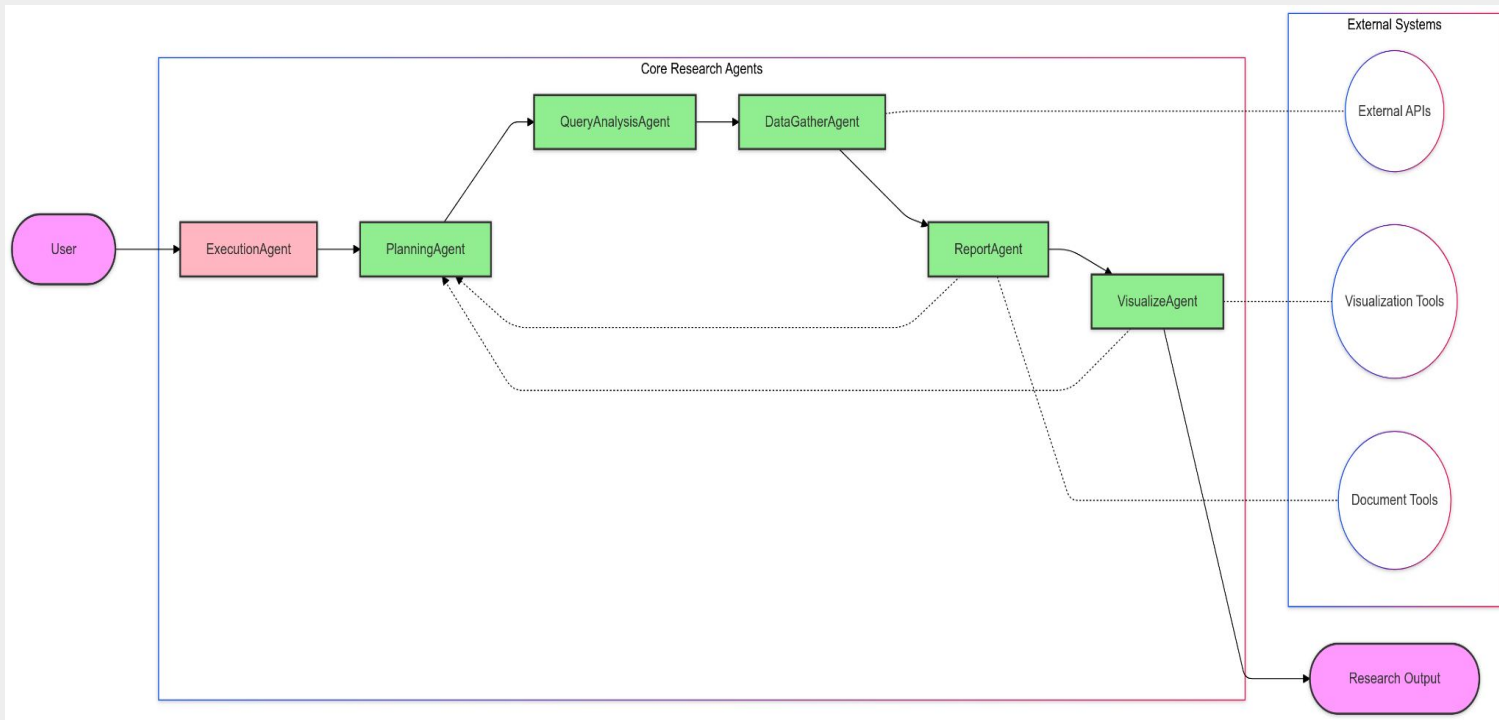


```
AIMessage(  
  tool_calls=[  
    {  
      name: "get_weather"  
      args: {  
        location: "Hawaii",  
      },  
      id: "call_abc123",  
      type: "tool_call"  
    }  
  ]  
)
```











Pipeline Overview

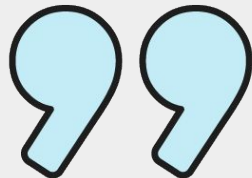




Agent in this lab



 ExecutionAgent	Orchestrates entire flow
 PlanningAgent	Validates & plans steps
 QueryAnalysisAgent	Extracts entities from input
 DataGatherAgent	Fetches city + EV data
 ReportAgent	Writes structured reports
 VisualizeAgent	Builds data visualizations





QnA



Thank you for listening

Let's connect

Facebook/ LinkedIn: Hieu Ngo

