

Stage1

Before Calling

Query Input and Pre-processing:

✂ Challenge 1.1: Intent Recognition
Challenge 1.2: Function redundancy



Query
Processing

Function
Retrieve

Stage2

On Calling

When to Call:

✂ Challenge 2.1: Missing Calls
Challenge 2.2: Unnecessary Calls



Function Trigger

No

Regular
Response
from **LLMs**

YES

Parameter
Extraction
by **LLMs**Sufficient
ParametersInsufficient
Parameters

Ask Users Back
from **LLMs**

Response Generation via Function Output:

✂ Challenge 4.1: Execution Result Mismatch
Challenge 4.2: Irrelevant Information Overload
Challenge 4.3: Mismatch Between Real-World
Functions and LLM Results
Challenge 4.4: Execution Failure



Stage3

After Calling

How to Call:

✂ Challenge 3.1: Missing/Illegal Parameters
Challenge 3.2: Function hallucination
Challenge 3.3: Pronouns Resolving
Challenge 3.4: LLM Inherent Limitations on
Latency and Accuracy
Challenge 3.5 Multi-Call Procedure
Challenge 3.6 Effective Context Management

Stage2

On Calling