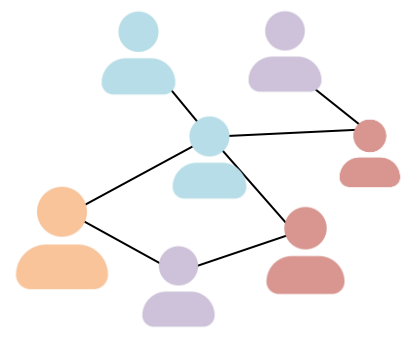
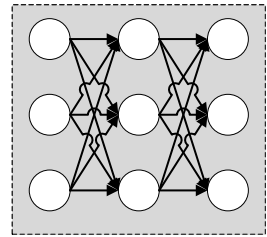


### (1) Prompt: Search Task



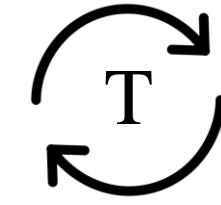
In a federated graph scenario, with  $\langle N \rangle$  clients, each holding a segment of the  $\langle D \rangle$  graph dataset, their average shortest path length and network density are  $\langle \Pi \rangle$  respectively.

### (2) Prompt: Search Space



There are widely adopted GNN operations:  
-----  
There are widely adopted activation function operations:  
-----

### (3) Prompt: Search Strategy



In the **Exploration** stage, you should -----  
In the **Exploitation** stage, you should ---- -- ----

### (4) Prompt: Performance Feedback

Refer to the historical experiment results, where the currently tested frameworks include:  $\langle \Lambda \rangle$ .  
The current top five architectures with the best performance are  $\langle \mathcal{P} \rangle$ .

Input: Prompt

LLM Controller



PaLM 2



Output: List

	Client 1	Client 2	...	Client N
Architecture 1:	“     ”	“     ”	...	“     ”
Architecture 2:	“     ”	“     ”	...	“     ”
Architecture 10:	“     ”	“     ”	...	“     ”

Server



$\Delta_i$

Info<sub>i</sub>

Info<sub>Agg</sub>

Supernet

Input

Block 1

Block 2

Block 3

AC function

Output

Architecture j

pruning

Weight Sharing

Client N

Client 1

Input

Block 1

Block 2

Block 3

AC function

Output

Model 1

Communication Process:

1. Send architecture to Client   
 2. Send federated Info. to Server   
 3. Send aggregation federated Info. to Client   
 4. Send performance to Server