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# **DiversiGATE: A Comprehensive Framework for Reliable Large Language Models**

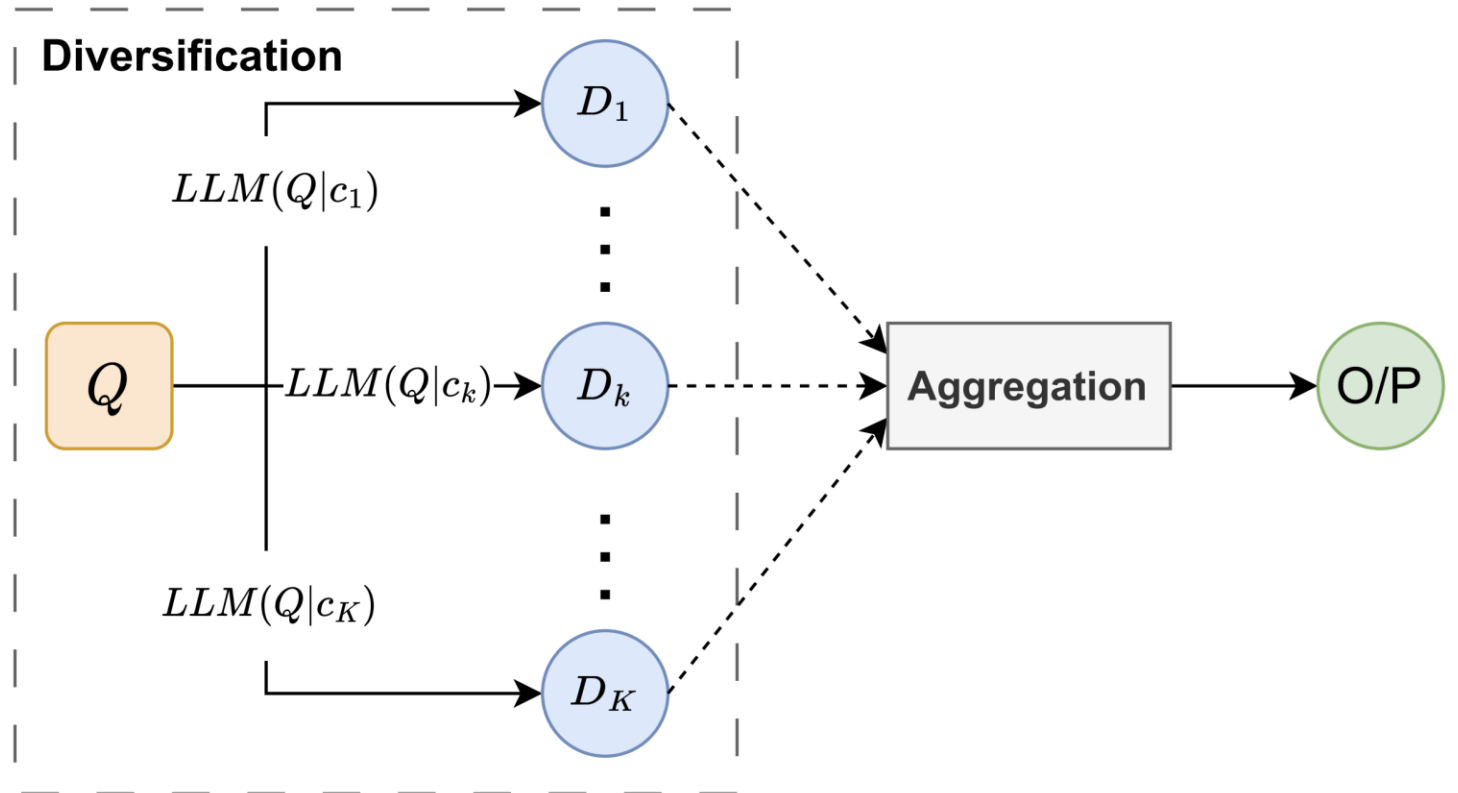
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# Motivation

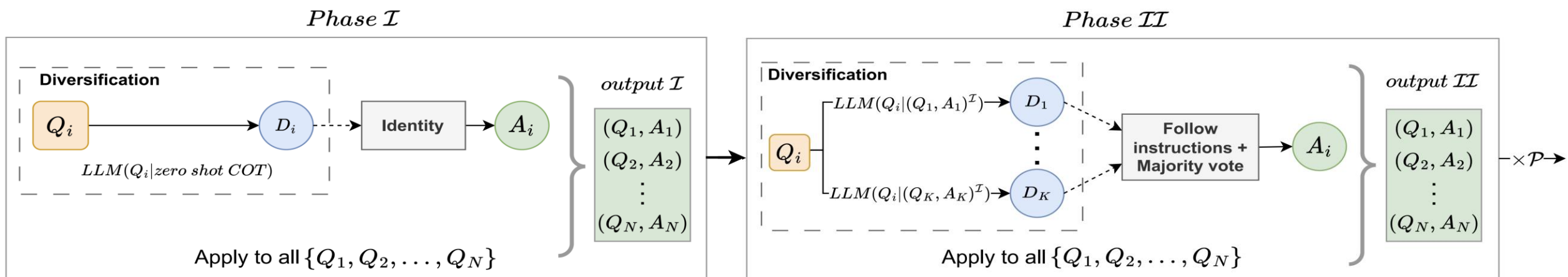
- LLMs face challenges in generating accurate and reliable outputs
- DiversiGATE framework is a unified framework that helps LLMs with hallucination problem.

## DiversiGATE framework



# SelfLearner

In prior approaches, **no learning** occurs in the ‘Diversification’ and ‘Aggregation’ modules. We introduce **SelfLearner**, which has the potential to **learn** and thereby improve the outcomes of each of the modules.



# Result

We used the GPT-3 Davinci-text-003 engine for all our experiments

GSM8K (100 Q's)

<b>Phase</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Accuracy</b>	<b>56%</b>	<b>60%</b>	<b>63%</b>	<b>61%</b>	<b>64%</b>

We observe an increasing trend in accuracy with increasing the number of Phase blocks, thus emphasizing the ‘self-learning’ ability of our model.

GSM8K benchmark in two phases achieves 54.8%→61.8% improvement.

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