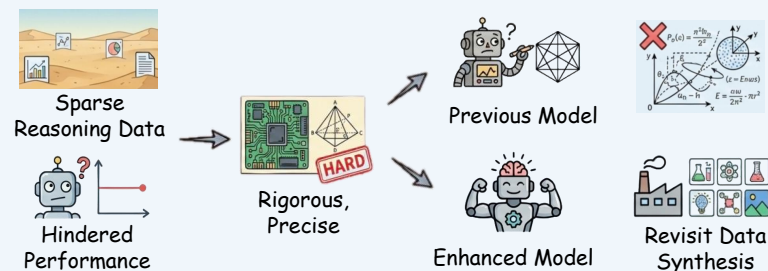


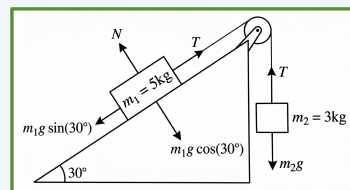
Scientific Image Generation



Closed-source Models



Nano Banana Pro,
GPT-Image-1.5

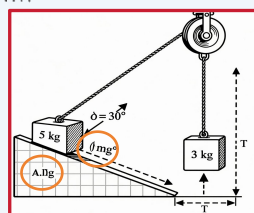


Powerful but **high cost**

Open-source Models



Qwen-Image,
HunyuanImage-3.0



Struggling with **Text Blur**
& **Semantic Misalignment**

ImgCoder: Logic-Driven Programmatic Framework



1. Understand



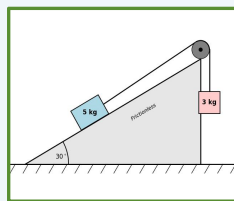
2. Plan



3. Code

Original Question:
A 5kg block slides down a frictionless inclined plane at 30°. It is connected by a massless string over a pulley to a hanging 3kg mass. Calculate the tension in the string.

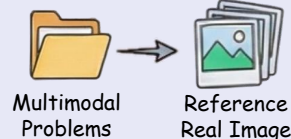
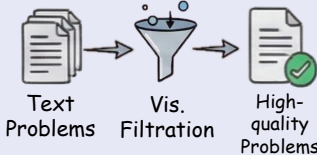
Content: [Incline]: Triangle with 30° slope. [Block 1]: Rotated 30° to sit flush on the slope. [Pulley]: Circle at the top vertex...
Layout: [Incline]: Base length approx. 10 units. Height determined by $\tan(30^\circ)$...
Label: [Masses](5kg, 3kg), [angle] (30°)
Considerations: Use `ax.set_aspect('equal')` to ensure the 30° angle is visually accurate. [Block 1] must be rotated by 30° to align flush with the slope...



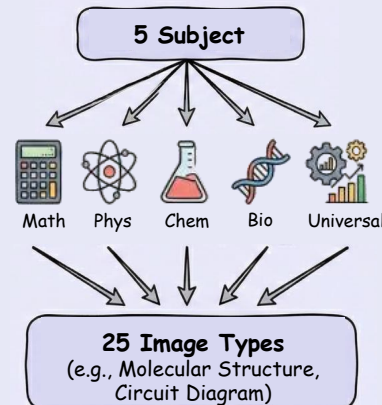
Balanced Cost
& High Fidelity

SciGenBench Construction

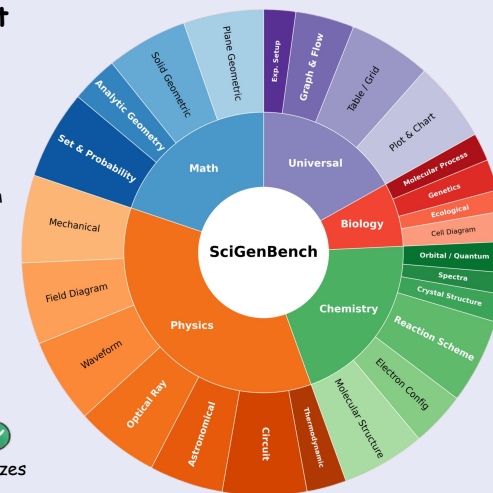
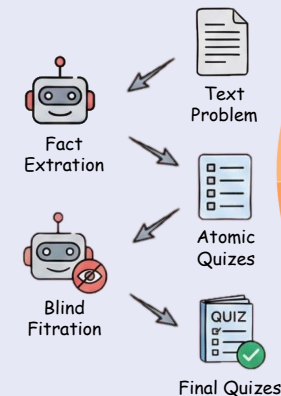
Data Selection



Hierarchical Taxonomy

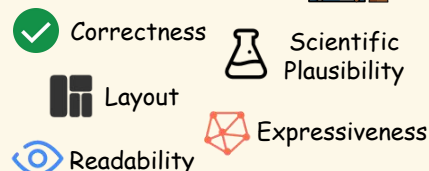


Visual-Dependent Quiz Generation

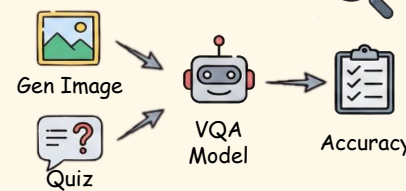


Evaluation Framework

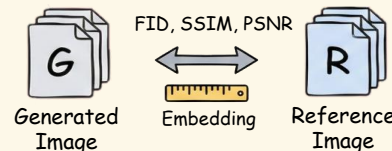
5 dimensional LLM-as-Judge



Factual Quiz Test



Dist. Consistency



Downstream Task

