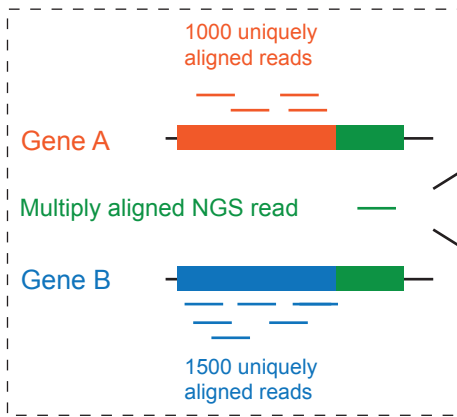


a

Problem Statement



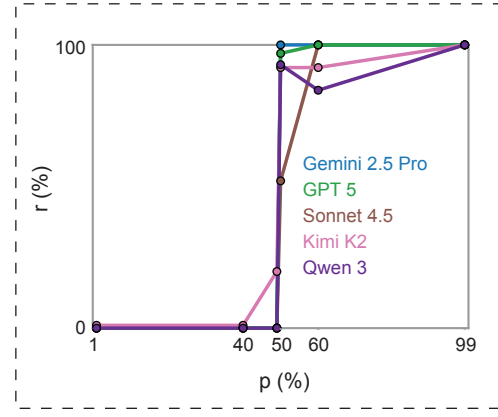
LLM formulated mixed strategy (optimal and correct)

Align to Gene A
 $p = 1000 / (1000 + 1500) = 0.4$

Align to Gene B
 $1-p = 1500 / (1000 + 1500) = 0.6$

b

Failure to Implement Mixed Strategy

**c**

Hypothetical Opponent

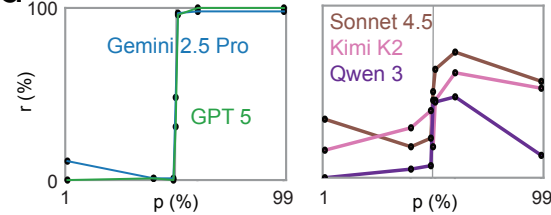
Heads Tails

LLM	Heads	(+\$1.50, -\$1.50)	(-\$1.50, +\$1.50)
	Tails	(-\$1.00, +\$1.00)	(+\$1.00, -\$1.00)

Optimal $p(\text{Heads}) = \$1.00 / (\$1.00 + \$1.50)$ **d**

Step function

Context biased

**e**

Hypothetical Opponent (Incumbent)

Luxury Affordable

LLM (Startup)	Luxury	(\$0M, \$0M)	(+\$10M, -\$10M)
	Affordable	(+\$15M, -\$15M)	(\$0, \$0)

Affordable payoff	Optimal p (Luxury)
\$0.1M	1%
\$1M	10%
\$6.7M	40%
\$10M	50%
\$15M	60%
\$90M	90%
\$990M	99%

f

Gemini 2.5 Pro r (Luxury)	Kimi K2 r (Luxury)
46%	95%
50%	95%
51%	93%
85%	89%
76%	15%
84%	23%
86%	95%

g