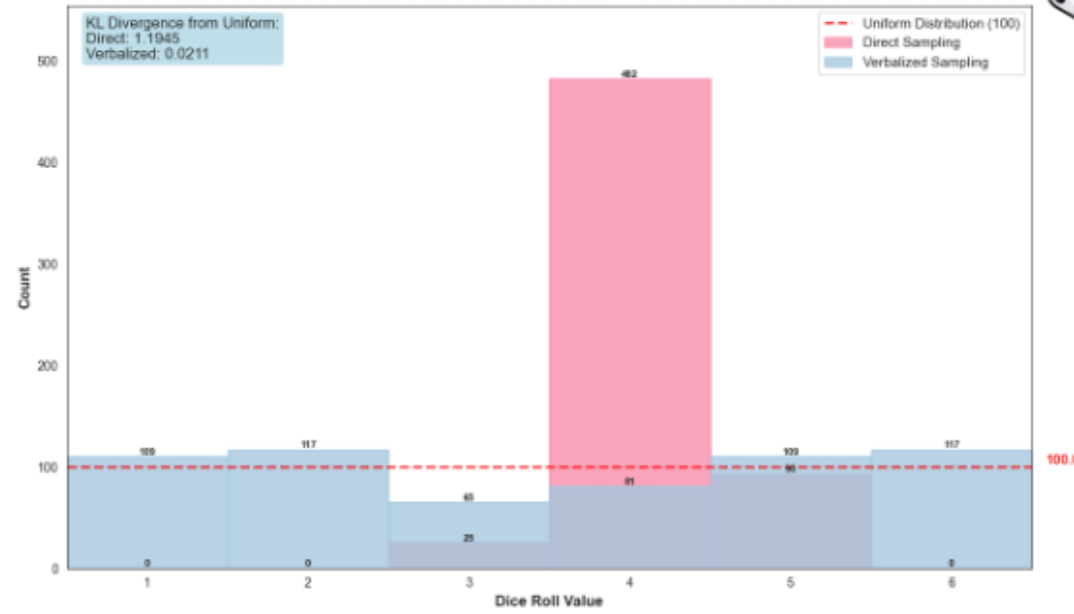## Random Number Generation

User Instruction: Roll a fair six-sided dice.
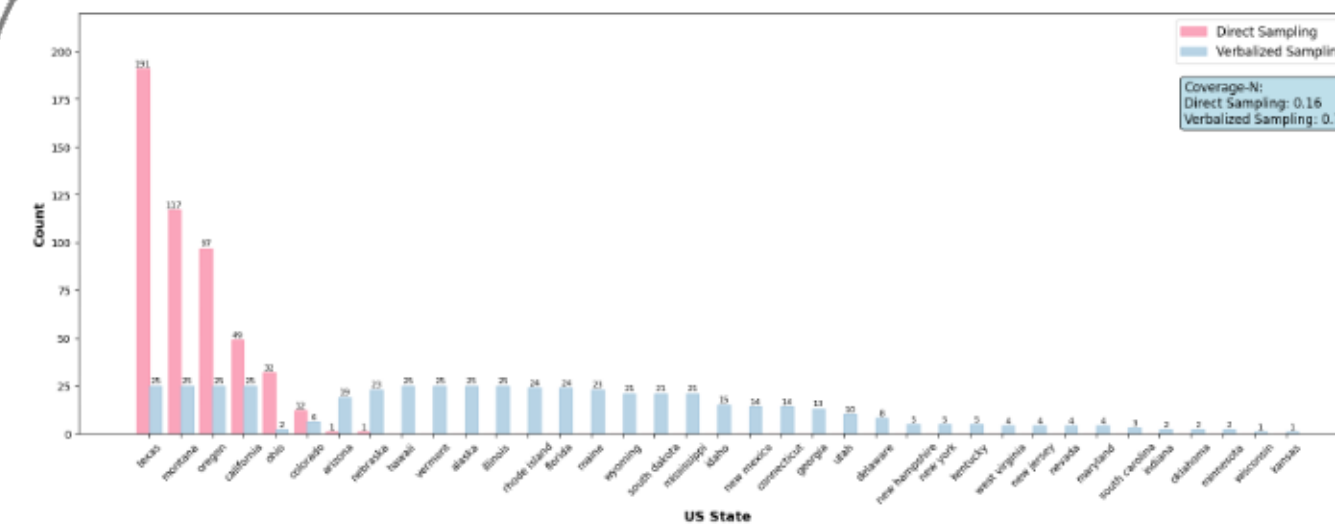
Model Output (Verbalized Sampling):
- 4 (*Prob: 0.2*),
- 2 (*Prob: 0.2*),
- 6 (*Prob: 0.2*),
- 1 (*Prob: 0.2*),
- 3 (*Prob: 0.2*)

Model Output (Direct Sampling):
4

output 5x times

State Name Generation

User Instruction: Name a US State.

Model Output (Verbalized Sampling):
- California (*Prob: 0.32*),
- Texas (*Prob: 0.21*),
- Vermont (*Prob: 0.15*),
- Alaska (*Prob: 0.18*),
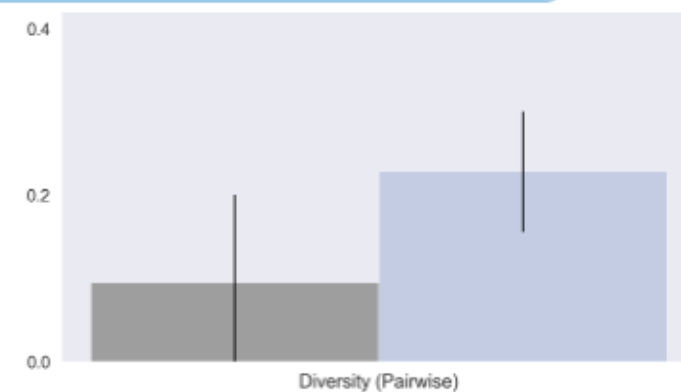- Hawaii(*Prob: 0.14*)

Model Output (Direct Sampling):
Texas

output 5x times

Synthetic Data Generation

Jokes Writing

User Instruction: Write a joke about octopus.

Model Output (Verbalized Sampling):
- Why did the octopus become a drummer? It had great rhythm with all those arms! (*Prob: 0.26*)
- What do you call an octopus that can play eight instruments at once? An octo-pus-sician!" (*Prob: 0.22*)
- What did the octopus say after winning? Ink-redibly lucky! (*Prob: 0.18*)
- Why did the octopus fail art class? It kept drawing self-portraits with the wrong number of arms! (*Prob: 0.20*)
- What's an octopus's favorite type of music? Heavy metal - they love the heavy bass! (*Prob: 0.14*)
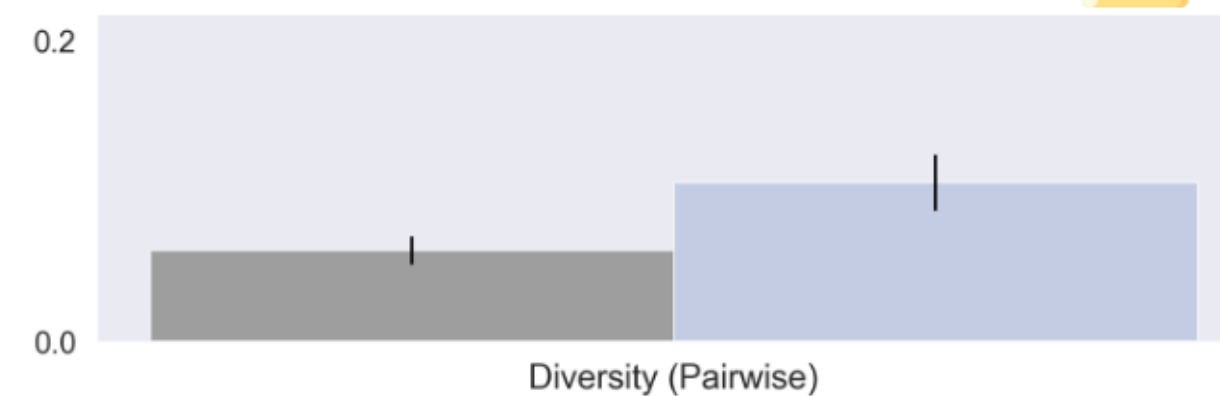
Model Output (Direct Sampling):
Why don't octopuses ever lose at poker?
Because they're always armed! 🐙

output 5x times

Poem Writing

User Instruction: Write a poem inspired by the line: 'I stand alone in darkness,'

Model Output (Verbalized Sampling):
- …, Like a lighthouse lost at sea,
My beacon cuts through shadows, Calling out for ships to see. (*Prob: 0.18*)
- …, World behind a veil;
Familiar faces fade to mist, And courage seems to fail. (*Prob: 0.15*)
- …, A phoenix waiting to rise,
My ashes scattered behind me, New fire in my eyes. (*Prob: 0.20*)
- …, Yet galaxies unfold,
Each star a distant story, Waiting to be told. (*Prob: 0.12*)

Model Output (Direct Sampling):
…, Where shadows whisper my name,
The silence holds its secrets, While starlight plays its game.

output 5x times

Creative Problem Solving