**Introduction**

Here we seek to improve the performance of GPT-3 extracting context by using 4-shot learning. The prompt breaks up the context from “Get\_Bio\_Strat\_2” into an organism context and an experimental context.

**Prompt**

Refer to prompt 7 in the “Context\_prompt\_list” file in this directory.

**Test From OpenAI Playground**

Text: Harbor seal vibrissa morphology suppresses vortex-induced vibrations. Harbor seals (Phoca vitulina) often live in dark and turbid waters, where their mystacial vibrissae, or whiskers, play an important role in orientation. Besides detecting and discriminating objects by direct touch, harbor seals use their whiskers to analyze water movements, for example those generated by prey fish or by conspecifics. Even the weak water movements left behind by objects that have passed by earlier can be sensed and followed accurately (hydrodynamic trail following). While scanning the water for these hydrodynamic signals at a swimming speed in the order of meters per second, the seal keeps its long and flexible whiskers in an abducted position, largely perpendicular to the swimming direction. Remarkably, the whiskers of harbor seals possess a specialized undulated surface structure, the function of which was, up to now, unknown. Here, we show that this structure effectively changes the vortex street behind the whiskers and reduces the vibrations that would otherwise be induced by the shedding of vortices from the whiskers (vortex-induced vibrations). Using force measurements, flow measurements and numerical simulations, we find that the dynamic forces on harbor seal whiskers are, by at least an order of magnitude, lower than those on sea lion (Zalophus californianus) whiskers, which do not share the undulated structure. The results are discussed in the light of pinniped sensory biology and potential biomimetic applications.

Function: to reduce vibrations

Mechanism: undulated surface structure

Organism Context: while scanning the water for hydrodynamic signals

Experimental Context: force measurements, flow measurements, and numerical simulations

Organism: harbor seal

Part of: mystacial vibrissae

Strategy: Harbor seal mystacial vibrissae reduce vibrations by having an undulated surface structure.

**Content**

1. W2005779387
   * Sample: "title": "On the buoyancy of the pearly nautilus", "abstract": "nautilus macromphalus sowerby when freshly caught was close to neutral buoyancy having a weight in sea water of about 0\u20132% of its weight in air. the animals without their shells varied considerably in density but the volume of the shell was an approximately constant fraction of the total volume of the whole animal and whole animals were brought approximately to the same density by havingmore or less liquid inside the chambers of the shell. about 80 % of the gas space in the shell was used to support the weight of the shell itself in sea water.in an adult animal the centre of buoyancy was found to be about 6 mm above the centre of gravity, which made the animal very stable in its natural swimming position, a couple of about 350 g. cm being required to turn it through 90\u00b0. the pearly partsof the chamber walls were impermeable to sea water but the chalky and horny siphuncular tubes joining the septal necks were very porous. the most newly formed tenor so chambers were the only ones to contain liquids in appreciable volume and theydid this in diminishing amounts from the newest to the oldest. the watery liquids found within the chambers were always hypotonic to sea water and sometimes markedly so; they contained principally sodium and chloride ions. one animal was in the process of forming a new chamber, this incomplete chamber was completely full of liquidwith an osmolarity close to that of sea water but differing in composition from seawater."
   * Baseline:
     + Organism: pearly nautilus
     + Part Of: shell
     + Function: support the weight of the shell
     + Mechanism: having more or less liquid inside the chambers of the shell
     + Context: in an adult animal
     + Strategy: pearly nautilus support the weight of the shell by having more or less liquid inside the chambers of the shell.
   * New:
     + Organism: pearly nautilus
     + Part Of: shell
     + Function: support the weight of the shell
     + Mechanism: having more or less liquid inside the chambers of the shell
     + Organism Context: in sea water
     + Experimental Context: in an adult animal
     + Strategy: pearly nautilus support the weight of the shell by having more or less liquid inside the chambers of the shell in sea water.
   * Notes:
     + Baseline
     + Correct
       - Organism, Function, Mechanism, Part Of
       - Strategy is missing information.
         * Context
     + Incorrect
       - Context → was close to neutral buoyancy
     + ⅚
     + New
     + 7/7
     + Context could also be was close to neutral buoyancy

**Conclusion**

* Tried 7 different variations of this prompt, but the actual strategies were not being produced for some samples.
* Made the prompt more fine-grained, started printing None for many of the elements of the biological strategies.
* Overall, this prompt may be too complex. Possibly break this prompt up.