Review of: "Can artificial jellyfish be the next pragmatic autonomous self-deployable actuator?"

Kunal Singh

This article is a comprehensive and insightful exploration into the field of soft robotics, particularly focusing on jellyfish-like self-deployable actuators. The author does a good job in highlighting the paradigm shift towards soft robotics, emphasizing the flexibility, adaptability, and biomimicry that define this emerging field. The detailed discussion on various aspects, including the use of TCPFL (Twisted and Coiled Polymer Fiber Actuator) in underwater environments and the potential applications of such technologies, is commendable. The article effectively bridges the theoretical concepts with practical applications, thereby adding significant value to the ongoing discourse in soft robotics. There are areas that could benefit from further exploration or clarification:

1. The article mentions the adaptability of soft robots in dynamic and unpredictable environments but does not discussed deeply into specific environmental conditions and challenges these robots might face. For instance, how would these jellyfish-like actuators perform in varying salinity, water currents, or temperatures? A more detailed analysis or discussion on the adaptability of these actuators in diverse aquatic environments would enhance the understanding of their practical deployment and resilience.

2. The article briefly touches upon the comparison of the Jelly-Z prototype's cost of transport (COT) with real animals and other underwater robots. However, a more comprehensive comparative analysis could provide greater insights. This could include a detailed comparison in terms of efficiency, durability, and operational lifespan against traditional remotely operated vehicles (ROVs) and human divers. Such an analysis would help in understanding the practical feasibility and advantages of the Jelly-Z prototype over existing technologies in real-world applications.