MECHANICAL ENGINEERING STUDENT SEMINAR

Sunday, September 8TH, 2024, at 13:00, D. Dan and Betty Kahn Building, Room 217.

Paralympic Kayaking Stirring Aid

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In the world of Kayaking, a significant portion of steering and balancing relies on the paddler's feet. However, individuals with different disabilities, such as impaired muscle power, limb deficiency, or impaired passive range of movement, face challenges as they cannot exert force with their feet, creating a significant disadvantage in velocity. This affects mainly the performance of competitive athletes but also makes the recreational parakayaker's life harder.

The kayaker's legwork plays a significant part in two ways: controlling the kayak's rudder (fin) and balancing the kayaker's body's force equilibrium. Because they cannot control the kayak's rudder, most para-kayakers fix its movement in the center position.

This project aimed to design and develop a solution for the Israeli Paralympic Kayaking team that is approved and efficient for competitions and specifically designed to address this issue. By leveraging the functional aspects of the legs, meaning their upper thigh abductor and adductor muscles, the solution aims to enable athletes to compensate for steering movements, enhancing their performance during competitions.

The given solution impacted the athlete's ability to control their Kayak under conditions that affected the kayak's movement, affected their starting point, and improved their practices to focus on the relative practices for the competition.