Improving the Aerodynamic Efficiency and Decreasing the Drag Coefficient of an F1 in Schools Race Car Based on Further Evaluation of Aerodynamic Principles and Designs

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To improve the aerodynamic efficiency of a Formula One (F1) in Schools race car, the original model of the car is evaluated and compared with a new design. The ideas behind the new design are supported by research about aerodynamics. Different potential designs are created with CAD software Fusion 360 and evaluated within CFD software Solid Edge 2020 with FloEFD. Empirical data shows how specific changes to the structure of race cars can improve aerodynamic efficiency by decreasing their aerodynamic drag. The experimental data and methods of this study can provide help and guidance for teenagers participating in the F1 in Schools competition program to solve the aerodynamic performance problems of racing cars and thereby increase youth interest in STEM programs, as well as their opportunities to learn about engineering and enter engineering careers.

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Third Award of $1,000
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