Abstract
A primary safety concern when riding a motorcycle in inclement weather is sight obstruction due to the accumulation of moisture, which can result in serious injury or death. The purpose of our design is to provide the rider with a convenient way of eliminating this concern by adding a squeegee-like material between the thumb and index finger. Results show our design is 56% more efficient than the standard motorcycle glove at removing moisture.

Design Objectives
The benchmark used to obtain the design objectives is the Alpinestars SP2 street glove. The design concept will offer a minimum of 70% water reduction per swipe. To accomplish this, the wiper blade must have a deflection of 2-4 mm under appropriate loading during swipe.

Modeling and Analysis
SolidWorks was used to model three different conceptual design geometries for the wiper blade. Finite Element Analysis was performed using SimulationXpress to determine tip deflections for each geometry. The same load was applied to each blade geometry in order to adequately compare final results. The results were used to determine which geometry best accomplished design objectives. Figure 4 shows the geometry which best meets the design requirements.

Testing and Results
Testing was performed by applying water to the visor and attempting to remove the water with one swipe. This was done for two different prototyped wiper blade locations, and for the benchmark glove, which has no wiper blade. The mass of the water was recorded to determine percent reduction per swipe. A wiper blade located on the index finger provided the greatest reduction of water, as shown in Figure 5.

Conclusion
Our design outperformed the benchmark by removing 25% more water, for a total of 70% water reduction per swipe. The wiper blade deflected 3.8 mm, which is within the design objectives. The wiper blade design allows the user to safely and effectively remove water from the visor.

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References
http://www.instructables.com
http://www.3dcontentcentral.com