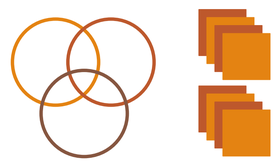
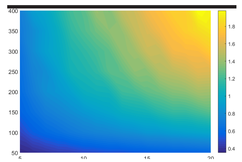
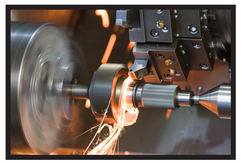
Investigating Motorcycle Control Capabilities in Standard Maneuvers

We investigated methods for enhancing motorcycle control capabilities to increase rider performance. We generated a range of ideas and narrowed down solutions based on technical feasibility, system effectiveness, and fidelity to the Harley-Davidson brand. We then analytically modeled and prototyped one promising solution to determine its feasibility.







User Research

Two teammates took the Motorcycle Safety Foundation's Basic RiderCourse to learn how to ride a motorcycle. We also interviewed motorcycle riders with a range of experience.

Ideation

We identified three areas of opportunity, created solutions to the problem, and evaluated the promising ideas based on criteria such as feasibility, customer experience, and cost.

Analysis

We decided to solely investigate the most promising system during the second semester. We created an analytical model of the system to see how effective it would be.

Prototype

We prototyped a scaled version of the system to verify the accuracy of our analytical model. Our prototype behaved as simulated, so our model could be used as a design tool.

Harley-Davidson Liasions

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