Week 5: Smart cars

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# Smart Cars

The most powerful artificial intelligence applications use machines to enhance human capabilities rather than replace them (Heer, 2019; Boire, 2017). For instance, a person can write a more profound business case than a machine; however, the same machine will have fewer misspellings and grammatical errors. This dichotomy exists because humans specialize in contextualizing thought versus automation use patterns to make predictions (Schleer et al. 2019). Smart vehicles are an area of research that seeks to fuse this symbiotic relationship. As this partnership flourishing, it will continue creating advancements across safety, optimization, and convenience systems.

# Practical Applications of Intelligence

Machine learning can enhance every aspect of the drive, from extending the physical parts’ lifespan to increasing the driver’s overall satisfaction. Figure 1 contains a non-exhaustive taxonomy subset of these situations, such as reducing wear and tear and object detection. While building the taxonomy, the critical placement consideration was focusing on that aspect’s core use cases. Many items, such as Voice Assistance (VA), could arguably live under the Safety pillar. However, safety systems could exist in the same capacity even though more traditional input interfaces.

Figure 1: Taxonomy of Use-Cases

## Safety Control Systems

Annually, 32,000 Americans die from automotive accidents, and another 2 million are injured (CDC, 2016). This area represents a critical failure that technology needs to improve.

## Convenience Systems

## Optimization Systems