**Author:** Aditya Mengani, MIDS

**Title:** SAFER TM—Safety Report for Autonomous Vehicles

**Abstract:**

Self autonomous vehicles are fast evolving with many car makers and tech companies betting big on this line of industry; even though there are many new players emerging the safety and risk related to driving these cars is still going to be a big debate for years to come. It is estimated that AV vehicles need to run 5 billion miles, which would take years with 95% confidence to demonstrate that their failure rate is lower than human driving failure rate. It can be presumed that there will always be a factor of risk no matter how much self-driving technology is enabled in AV cars. The industry hence is choosing a cautious approach by making self-driving a collaboration between driver and car where a driver can choose to take control of the car when needed or when he feels unsafe.

I propose an AI/ML platform (SAFER) that tries to address these situations and provides a real-time voice-enabled reporting of risks for a driver to decide whether to switch into or out of the auto-pilot model by assessing a combination of risks and safety in real-time. SAFER platform integrates data captured from car using sensors in real time and combines it with variety of public data sources like Road Safety database, Weather datasets, the driving history of the driver(if provided), real-time traffic monitoring platforms, Motor Vehicle reports of car and assesses the risk based on changes in terrain, traffic, places or localities; it can also help initiate notification alerts during crashes and detect any abnormal driving patterns if opted(either in manual or auto-pilot mode);if a driver feels unsafe during a drive, based on his health sensor data, it can automatically make the driver reduce his stress by playing his favorite music or a podcast customized by the driver; Due to its ML abilities, SAFER gets better and better with more usage by the customer providing better insights into the driving patterns and assessing risks more effectively.

SAFER’s audience are customers of auto insurance companies. A pilot of the platform will be released to interested customers by collaborating with Insurance companies and data that is obtained from them is used to assess risk and improve the recommendation metrics as more and more drivers use the platform over a period.

**Keywords:** SAFER, Autonomous Vehicle, Reporter, Risk, Safety, AI/ML platform

**About the Author:** A Data Engineer by profession with strong domain experience in Casualty Insurance Industry, Aditya is always passionate about data and how data can help make better decisions for a consumer of a product and a great proponent of open-source and cloud-native big data/AI & ML platforms. Prior to pursuing his Masters of Information and Data Science at UC Berkeley, he is a certified AWS Big Data Specialist and also has a prior Master of Computer Science.