The First Autonomous Vehicle of Pakistan

The research on the "First Autonomous Vehicle of Pakistan" was carried out, with the financial assistance of Office of Research, Innovation and Commercialization (ORIC), in the Intelligent Transport Lab, Department of CS & IT, Mirpur University of Science & Technology (MUST, Pakistan by Mr. Faisal Riaz (Assist. Prof) in 2015. His research team encompassed: Mr. Talha Ahmed Lodhi (BSCS), Muhammad Atif Butt (BSCS), Muhammad Farrukh Farid (BSCS), Hassan Ali Asghar (BSCS), and Bilal Ahmed Tariq (BSCS).

EMO is the acronym used for dual seat Emotions Enabled Autonomous Vehicle. The basic purpose of this research was to design a human inspired truly autonomous vehicle, which makes decisions while using both cognitive and emotional cues. The first version of this autonomous vehicle was inaugurated by worthy Prof. Dr. Samar Mubarakmand, a Famous Atomic Scientist, in December, 2016. This version of EMO received much appreciation by the researchers of almost all universities of Pakistan. This prototype offers the features like; Passenger Communication System, 360-degree Field View using long and short range sonars (5 feet range), Emotions Inspired Collision Detection and Avoidance, Vehicle-2-Infrastructure Communication, Vehicle-2-Vehicle Communication System, and Auto accident reporting.

The second version of EMO has been recently launched on December 18, 2017 in "DICE-2017 Mega Innovation and Entrepreneurship Event" where it won 1st prize while competing with engineering projects of all participating universities of Pakistan. This version of EMO was modified by incorporating features as; Auto Pilot, 360 degree FOV using 3D Lidar (40 meters range), Computer Vision based Environment Classification, Machine Learning, Human Inspired Driving Strategies and Enhanced Passenger Communication System.

Basically, EMO has been designed as a cheap autonomous vehicle for a small family while keeping in mind the purchasing power of the common people as well as comparing it with the Tessla and Google Car. The car is designed in such a way that it can be extended for the medium sized family as well. The electric electric batteries will help achieve zero emission and lead to the solution of the pollution problems. The number of collisions will ultimately be decreased by the state-of-the-art collision detection and avoidance technology. The plug and play technology of the EMO can be installed on any platform, which make it suitable to be used as industrial autonomous loaders to carry the raw material from place to place within the vicinity of any industry. The research team is very confident that their product will receive a positive and encouraging response from the industrial sector.