

AI Techniques in Electric Vehicles

Artificial Intelligence (AI) techniques utilized in Electric vehicles enhance performance, develop new innovation, smart charging of electric vehicle, and create a smart environment. AI helps in energy consumption management, Safety management, Security, and creates a pollution-free eco-friendly environment which is the demand of the present and upcoming society. Society needs smart advancements in vehicles with user-friendly which are sorted out by AI and electric vehicles. Fast Advancement in Machine-learning and deep learning algorithm makes AI bring a technological revolution in Electric vehicle.

The automotive market is changing fast. Innovation around autonomous, electrification and mobility has disrupted the industry and shows no signs of slowing down. Consumer demands change every day, from wanting more connected cars to greater levels of safety and governments are creating new regulations daily to support global trends for a greener society. In addition to this, software now holds a place as the most critical component in new vehicles. Software is used through apps in vehicles that are connected to consumers, in the sensing technologies supporting autonomous, in electrical/electronics, and embedded systems to name a few. It's everywhere from a chip in the car, to a stop light in a city's infrastructure. Vehicle electrification is a driving force in the ongoing revolution in the automotive industry. Engineering electric vehicles fast and profitably, while making them desirable to consumers, is a daunting challenge.

AI plays a major role in developing successful intelligent systems, including games and cognitive developmental systems. It provides cost-effective solutions to the complex real-life problems for which conventional computing solution does not exist. A revolution is transforming the automotive industry. Powerful digital technologies are driving demand for autonomous transport solutions, and they are disrupting existing approaches to car building. These smart and connected vehicles powered by soft computing represent a considerable challenge and opportunity for automakers. Developing future vehicles comes with a great increase in complexity, so the right tools and technology will be needed.

Topics of interest for this Special Issue include, but are not limited to

- AI in electric vehicle wireless power transfer systems in smart grids.
- AI in Energy management and coordination of energy generation with smart charging of electric vehicles, vehicle to grid and energy storage to enhance grid stability, increase energy autonomy and reduce carbon footprint.
- AI in Eco system and system architecture for electric mobility
- AI in electric vehicle design, modelling and optimization
- AI in hybrid electric vehicles for energy and environment assessment
- AI in automotive and grid scale applications for sustainability assessment
- AI in power supply management for an electric vehicle

- AI in car software and electronics architecture
- AI in electric vehicle life cycle assessment
- AI in electric vehicles charging systems in industrial, commercial, and residential scenarios
- AI Technology for Electric Vehicle Scheduling of charging and discharging
- AI-based Optimal planning of electric vehicle infrastructure
- AI techniques utilized in multi-agent systems for electric vehicles
- A deep learning algorithm for optimal power distribution based on prediction for EVs

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