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	(71)**Name of Applicant :**
	  1)**RVR & JC COLLEGE OF ENGINEERING**
	   Address of Applicant :RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ----------- -----------
	Name of Applicant : NA
	Address of Applicant : NA
	(72)**Name of Inventor :**
	  1)**Dr. K RADHA RANI**
	Address of Applicant :ELECTRICAL & ELECTRONICS ENGINEERING RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ----------- -----------
	  2)**Dr. N. CHAITANYA**
	Address of Applicant :ELECTRICAL & ELECTRONICS ENGINEERING RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ----------- -----------
	  3)**Dr. A. RAMA KOTESWARA RAO**
	Address of Applicant :ELECTRICAL & ELECTRONICS ENGINEERING RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ----------- -----------
	  4)**Dr. G. V.P ANJANEYULU**
	Address of Applicant :ELECTRICAL & ELECTRONICS ENGINEERING RVR & JC COLLEGE OF ENGINEERING CHANDRAMOULIPURAM, CHOWDAVARAM, GUNTUR PIN - 522 019 Guntur ----------- -----------

(57) Abstract :
ARTIFICIAL INTELLIGENCE BASED HIGH-EFFICIENCY DC-DC CONVERTER FOR DYNAMICALLY CHARGING ELECTRIC VEHICLES ABSTRACT The present invention discloses an Artificial Intelligence (AI) Based High-Efficiency DC-DC Converter 102 designed for dynamically charging electric vehicles. The system 200 comprises a power input stage for receiving electrical power from a source and an AI control unit 204 employing machine learning algorithms to optimize converter parameters in real-time. A feedback loop 206 collects data on electric vehicle characteristics, charging requirements, and environmental conditions, facilitating continuous adjustment of the converter for maximum efficiency during dynamic charging scenarios. The AI control unit 204 utilizes a neural network trained on historical charging data, environmental conditions, and predictive data from external systems, including electric vehicle management, weather monitoring, and power grid information systems. The system's bidirectional communication interface enables data exchange with electric vehicles, enhancing charging efficiency by considering real-time charging status and battery information.

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