

Electric Vehicle (EV) Club

An Electric Vehicle (EV) Club is typically a community of students and enthusiasts who share a common interest in electric vehicles. This club focuses on promoting EV technology, sustainability, and the benefits of electric transportation.

Objectives of EV Club

- Promote sustainable and green mobility solutions.
- Develop prototypes, conduct experiments, and collaborate on EV-related projects.
- Conduct workshops on topics like EV powertrains, charging infrastructure, and energy storage.
- Build connections with industry professionals, academics, and government bodies.
- Host seminars, webinars, and exhibitions related to EV advancements.
- Educate the public about EVs and their environmental benefits.

Activities in an EV Club

- Workshops and Training
- Seminars and Guest Lectures
- Build small-scale EVs, such as electric bikes or go-karts, to gain practical experience.
- Field Trips to raise awareness about EV technology
- Organize campaigns or drives to promote the adoption of EVs
- Writing a research articles.

Student coordinators

President : Ch. Ajay Kumar, 3rd year, EEE

Secretar : Naveen, 2nd year, EEE

Faculty coordinators

Dr. K Dhananjay Rao

Dr.D. Indira

Programs organised under EV Club:

- 1) Organised a hands on training program on EV technology in collaboration with Sytiqhub EV, Vijayawada from 13-02-2025 to 16-02-2025.
- 2) Organised a hands on training program on EV technology in collaboration with Sytiqhub EV, Vijayawada from 31-09-2024 to 03-10-2024.
- 3) Organised a guest lecture on topic power convereters for EV applications on 14/09/24. (Rsource person: Dr. Kiran Kumar nallamekala, SRM University, AP)
- 4) Organised a 3 days workshop on FPGA based controller design for EVs in collaboration with NDEEP connect Pvt. Limited.

Glimses of different Programs

1) Hands on traning programs







2) Low cost EV development





Outcomes of Club:

Under EV club students has been published following indexed papers:

- [1] K. Dhananjay Rao, Kuna Dhanunjaya Rao, P. Pavani, Kapu V. Sri Ram Prasad, Damarla Indira, and B. Phaniteja. "A critical review on lithium ion battery modeling, battery management system and thermal runaway issues." *Electrical Engineering* (2025): 1-37.
(SCI) Q2
- [2] K. Dhananjay Rao, N. Naga Lakshmi Pujitha, MadhuSudana Rao Ranga, Ch Manaswi, Subhojit Dawn, Taha Selim Ustun, and Akhtar Kalam. "Fault mitigation and diagnosis for lithium-ion batteries: a review." *Frontiers in Energy Research* 13 (2025): 1529608.
(SCI) Q2
- [3] K. Dhananjay Rao *et al.*, "A Hyperparameter-Tuned LSTM Technique-Based Battery Remaining Useful Life Estimation Considering Incremental Capacity Curves," in *IEEE Access*, vol. 12, pp. 127259-127271, 2024
(SCI) Q1
- [4] Bavisetty, A., K. Dhananjay Rao, Reddy, K.M.M.K., Pallanti, K., Leelamadhavi (2024). A Smart EV-Based Micro Mobility System. In: Pal, M., Guerrero, J.M., Siano, P., Das, D., Chowdhuri, S. (eds) *Innovations in Energy Management and Renewable Resources. IEMRE 2023. Lecture Notes in Electrical Engineering*, vol 1239. Springer, Singapore. **(SCOPUS)**
- [5] Akhil, S.S., K. Dhananjay Rao, Mansa, T., Tharun, S., Dilip, B. (2024). A Brief Review of Cyber Attacks on Electric Vehicle Battery Management System. In: Pal, M., Guerrero, J.M., Siano, P., Das, D., Chowdhuri, S. (eds) *Innovations in Energy Management and Renewable Resources. IEMRE 2023. Lecture Notes in Electrical Engineering*, vol 1239. Springer, Singapore.
(SCOPUS)
- [6] Rani, I. L., K. Dhananjay Rao, Preetham, P., & Chaitanya, G. (2023). Design of Lithium-Ion Battery Thermal Management System for Vehicular Applications. In *Recent advances in Power Systems: Select Proceedings of EPREC 2022* (pp. 97-106). Singapore: Springer Nature Singapore.
(SCOPUS)

- [7] K Dhananjay Rao, C. Sunil, N. B. Adithya, N. L. Pujitha Nagasarapu, C. Manaswi and Prakash, "Data Driven Techniques for Fault Detection in Lithium Ion Battery," *2024 International Conference on Sustainable Power & Energy (ICSPE)*, Raigarh, India, 2024, pp. 1-6. **(SCOPUS)**
- [8] K Dhananjay Rao, M. Taddi, T. Sriramula, D. Kumar Baliga, A. Simhadri and P. S. Panigrahy, "Detection of Cyber Attacks on Wireless BMS of Electric Vehicles using Long Short-Term Memory Networks," *2023 7th International Conference on Computation System and Information Technology for Sustainable Solutions (CSITSS)*, Bangalore, India, 2023, pp. 1-6, doi: 10.1109/CSITSS60515.2023.10334240. **(SCOPUS)**
- [9] K Dhananjay Rao, K. K. Reddy, P. Koushik, B. Avinash and D. L. Madhavi, "Performance Analysis of Lithium-Ion Battery Considering Round Trip Efficiency," *2023 IEEE 2nd International Conference on Industrial Electronics: Developments & Applications (ICIDeA)*, Imphal, India, 2023, pp. 555-559. **(SCOPUS)**