

Dr. ADEPU VAMSHI

Ph.D. in Electrical Engineering

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Area of interest: Power Systems, Optimal Planning and Operation, Power System Optimization, Renewable Energy, and Electric Vehicles.

Education

Year	Degree	Institute/Board	CGPA/Percentage
2025	Ph.D. (Electrical Engineering)	National Institute of Technology (NIT) Andhra Pradesh	8.75/10 (1 st year)
2020	M.Tech. (Power Systems Engineering)	National Institute of Technology (NIT) Warangal	6.19/10
2015	B.Tech. (Electrical and Electronics Engineering)	Jyothishmathi College of Engineering and Technology (Affiliated to JNTUH)	65.77%
2011	Intermediate	Intermediate Public Examination, Telangana	80.3%
2009	SSC	Board of Secondary Education, Telangana	77.7%

Skills

Programming languages	MATLAB and Python
Simulation platforms	PSCAD
Documentation	Microsoft

NPTEL courses studied

Year	Course code	Course Name	Credits	Score
2021	noc21-ee68	Introduction to Smart Grid	2	72%
2021	noc21-ee96	DC Microgrid and Control Systems	2	86%
2022	noc22-cs31	The Joy of Computing using Python	3	83%

Experience

Thesis works

Ph. D. Thesis (July 2021 – Dec 2025)

Title: Optimal Location of Charging Stations and Scheduling of Electric Vehicles in a Transportation Network with Distribution Network Integration

- ❖ To fulfil the charging requirement of electric vehicles, a traffic density based optimal charging stations are located for cost minimized functions of land cost, maintenance cost, running cost and charger cost to construct the charging station in a transportation network.
- ❖ A scheduling of electric vehicles to optimal placed charging stations is performed to reduce the power demand, power loss and annual energy loss when a transportation network with located charging stations is imported on distribution network to supply the power to the charging stations.

- ❖ A charge-discharge modelling is developed to maximize the charging station revenue and to earn EV user money by scheduling electric vehicles based on the battery state of charge and time of use prices for charging of electric vehicles. Evolutionary algorithms are used for optimal placement of charging stations and scheduling of electric vehicles.
- ❖ The IEEE 33-bus radial distribution test system is used in this study to examine the effects of integrating electric vehicles. Power losses and voltage magnitudes throughout the network are assessed using a backward-forward load flow approach.
- ❖ In order to effectively schedule electric vehicles and determine the most optimal locations for charging stations, MATLAB is used to apply optimization techniques that guarantee steady voltage profiles and low system losses.

M.Tech. Thesis (July 2019 – July 2020)

Title: Optimal Location of Fast Charging Stations for Electric Vehicles by Incorporating Traffic Density and Utility Grid Network

- ❖ Demand for traffic flow of Electric vehicles in an area is satisfied by identifying the number of Fast Charging Stations (FCS).
- ❖ This work aims to minimize the number of charging stations with an initial partition method. A novel method was derived from *K*-means clustering algorithm and Euclidean Distance measurement is used to find the distance from the junction to the nearest charging station in estimating the location of charging stations requirement in the considered area.
- ❖ Station Build-Up (SBU) cost with various parameters like land price, number of chargers and step-down transformer to locate the FCS etc., is reduced by initially partitioning the area. The demand for each partition concludes about the requirement of placement of charging station with the electric vehicles traffic and their capacity as constraints.
- ❖ The proposed method was tested on a selected area with various parameters considered and the obtained results have proven that reduction in the number of charging stations requirement and the nearest location of the charging station.

Publications

International Journals

1. **A. Vamshi** and N. Jayaram, "A Demand-based Placement of Optimal EV Fast Charging Stations in Urban Transportation Network," in *IEEE Transactions on Intelligent Vehicles*, doi: 10.1109/TIV.2024.3483259. [SCI, Q1, IF: 14.3]
2. **Vamshi, A.**, & Jayaram, N., "An approach for minimizing annual energy loss by electric vehicle scheduling to optimal fast charging stations" in *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects, Taylor and Francis*, 46(1), 11744–11770. <https://doi.org/10.1080/15567036.2024.2389226>. [SCI, Q2, IF: 2.2]
3. **A. Vamshi** and N. Jayaram, "A Priority Scheduling Approach for Charging Station Revenue Maximization by Allocating Different Battery Sizes of PEVs," *Sustainable Energy, Grids and Networks, Elsevier*, vol 43, 2025, 101895, ISSN 2352-4677, <https://doi.org/10.1016/j.segan.2025.101895>. [SCI, Q1, IF: 5.6]
4. **A. Vamshi** and N. Jayaram, "A PEV Charge-Discharge Novel Strategy for Charging Station Revenue Maximization using a Priority Scheduling Approach," *Energy Systems, Springer*. [Minor revision submitted]
5. **A. Vamshi** and N. Jayaram, "An Annual Energy Loss Minimization Approach on Distribution System with Optimal EV Scheduling to Existing Fast Charging Stations in Transportation Network," *IEEE Transactions on Intelligent Vehicles*. [Under review]
6. **A. Vamshi** and N. Jayaram, "An Annual Energy Loss Minimization with Optimal EV Scheduling to Fast Charging Station Locations in Transportation Network," *Journal of Electrical Engineering & Technology, Springer*. [Under review]

International Conferences

1. **Vamshi, A.**, Perli, S.B., Sireesha, L., "Fast Charging Stations for Electric Vehicles by Initial Partitions Demand" in *Applications of Advanced Computing in Systems. Algorithms for Intelligent Systems. Springer, Singapore*. https://doi.org/10.1007/978-981-33-4862-2_4.

2. **V. Adep** and J. Nakka, "State of Charge based Electric Vehicle Scheduling Within Existing Fast Charging Stations," **2023 7th International Conference on Computer Applications in Electrical Engineering-Recent Advances (CERA), Roorkee, India**, 2023, pp. 1-6, doi: 10.1109/CERA59325.2023.10455602.
3. **V. Adep** and J. Nakka, "Optimal Charging Station Locations for Different Battery Sizes of Electric Vehicles in a Road Network," **2024 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), Mangalore, India**, 2024, pp. 1-5, doi: 10.1109/PEDES61459.2024.10961323.

Fellowships/Membership in Professional Bodies

1. Graduate Student Member (IEEE) ID: 99041198

Participated Online Research Communities

1. ORCID ID: 0009-0003-7825-2398 **Available at:** <https://orcid.org/0009-0003-7825-2398>
2. Google scholar **Available at:** <https://scholar.google.com/citations?user=oDUVry0AAAAJ&hl=en>
3. Research gate **Available at:** <https://www.researchgate.net/profile/Adep-Vamshi>

Personal Information

- ▲ Date of Birth: February 19, 1994
- ▲ Nationality: Indian
- ▲ Marital Status: Single
- ▲ Languages Known: Telugu and English.
- ▲ Hobbies: Cycling, Reading stories and Movies.