

Abstract

In this presentation, we introduce various data-driven strategies for optimizing Electric Vehicle (EV) operations. Our focus is on determining optimal charging station locations, allocating charging capacity, and creating efficient routing strategies. We explore key performance metrics like throughput, mean travel time, and mean waiting time, emphasizing their importance in EV charging infrastructure optimization. By using diverse datasets, we demonstrate how probability and mathematical theories, machine learning algorithms, and advanced analytics can transform decision-making. The presentation aims to offer valuable insights for stakeholders in urban planning, energy management, and transportation, highlighting the crucial role of data-driven strategies in shaping the future of EV charging infrastructure.