Project Title: Automated Technician Task Matching System

Description: Aims to automate task scheduling processes by aligning task assignments with technician strengths to enhance operational efficiency, reduce costs, and improve customer satisfaction.

The telecommunications industry is the backbone of modern connectivity, providing essential services to millions of businesses and households. With heavy competition to provide the best connectivity, many companies claim to have the most advanced network technology. However, customers cannot experience that if the field service from technicians does not match the high-quality internet service. In other words, they have a great product but poor delivery which will result in a decrease in customer loyalty and lose estimation of $2.09 billion per year from customer churn rate.

Currently, technician assignments are made using manual or rule-based methods that rely primarily on availability or location, without accounting for skill alignment. As a result, 42% of tasks are mismatched, contributing to a 42% task failure rate, $350K annually in penalty costs, and declining customer satisfaction scores. These inefficiencies limit the organization’s ability to scale effectively, reduce operational margins, and negatively affect technician morale and customer trust.

This project proposes the design and deployment of an automated technician task assignment system in an enhanced scheduling interface. Leveraging modern data analytics and machine learning algorithms, the system will evaluate incoming service requests and dynamically match each job with the most suitable technician based on factors such as task characteristics, expertise, and historical performance. By automating this process, the solution aims to Improve Operational Efficiency, Reduce Operational Costs, and Improve Customer Experience by proving a Faster & Smarter Decisions on Assigning Technicians.

The anticipated benefits of this solution are substantial. First, customers will experience faster service and fewer delays, as the right technician is dispatched the first time, reducing the need for repeat visits. Second, the system will increase operational efficiency—technicians will spend less time traveling and more time resolving issues, leading to improved productivity and lower operational costs. Third, enhanced first-time fix rates and timely service delivery will boost customer satisfaction scores and strengthen brand loyalty.

The expected outcomes include a **40% reduction in penalty costs**, **15-point increase in customer satisfaction**, and a **significant improvement in task completion rates (from 75% to 90%)**, while lowering technician turnover through better job matching. These improvements align directly with the organization’s strategic priorities to **increase operational efficiency**, **deliver reliable service at scale**, and **strengthen customer loyalty** in a competitive service market.

From a business perspective, implementing this automated system is expected to result in measurable improvements. Key performance indicators such as average response time, first-time resolution rate, and customer Net Promoter Score (NPS) will be tracked and optimized. Additionally, the automation of task assignments can reduce overtime expenses and minimize service-level agreement (SLA) breaches, further improving the company’s bottom line.

In summary, by replacing outdated, manual assignment processes with an intelligent, automated system, the telecom industry can address current pain points, future-proof its operations, and deliver exceptional value to both customers and the business.