Electric Go-Kart

By: Leo Buckel

For my project, I designed and built a fully functional electric go-kart using primarily wood as the structural base. The frame provided a sturdy foundation to mount the motor, batteries, and control systems. From the start, I wanted the project to combine both creativity and engineering, giving me the opportunity to apply practical design while learning about key mechanical and electrical concepts.

One of the main mechanical challenges I tackled was building the steering mechanism and brake system. I implemented a disk brake that allowed the kart to stop effectively, and I experimented with different ways to mount and align the steering components so the kart could maneuver smoothly. These mechanical elements gave me valuable insight into how small design changes can greatly affect handling and safety.

On the electrical side, the go-kart was powered by a bank of five 12-volt batteries, providing a total system voltage of 60 volts. Power was delivered to a 2000-watt motor, which gave the kart strong acceleration and reliable performance. To make the system more user-friendly, I added headlights for visibility and a digital display that showed the battery percentage, current, and power. This helped me monitor energy usage and understand how the motor and batteries worked together during operation.

Overall, the project was a hands-on experience that brought together mechanical design, electrical systems, and problem-solving. Building the go-kart taught me not only how to assemble components but also how to think critically about design choices, safety, and performance.