Designing Beyond Code: How I Helped Shape an AI-Driven Driver Evaluation System

As the designer on our three-person team, my role was bridging the technical implementation with the practical application of our driver assessment system. Working with the ST SensorTile.Box Pro under Dr. Anuj Grover's guidance transformed my understanding of how intelligent systems can solve real-world problems.

The project began with mapping driving behaviors into discrete, measurable patterns. My intuition proved valuable as we determined which behaviors were truly indicative of driver skill. Is a fast turn always bad? Does smooth acceleration always indicate good driving? These questions forced us to think deeply about what constitutes safe driving beyond the simplistic parameters used in Delhi's current testing system.

The turning point came during our visit to ST's Greater Noida facility. Presenting our live track demonstration to industry professionals opened my eyes to the journey from development to deployment. Watching experts interact with our system – seeing their genuine interest when our RC car demonstration accurately classified different driving patterns – validated months of hard work. The Da Vinci Lab tour showcased semiconductor innovations that made me appreciate how our project fit into a larger technology ecosystem. When a judge suggested publishing a research paper on our TinyML approach, I realized our work transcended the competition itself.

The most rewarding feedback came when industry professionals discussed potential applications – from ride-sharing companies like Ola and Uber to government driver testing agencies. Someone even mentioned patent possibilities if we refined our system further.

Securing first place was gratifying, but the real victory was in my personal growth. I developed presentation skills, learned to translate theoretical knowledge into practical solutions, and understood how to bridge the gap between a technical product and market demands.

None of this would have been possible without CiPD's supportive environment and Dr. Anuj Grover's mentorship. The ST team – Raunaque Sir, Hemdutt Sir, and Mridupawan Sir – provided technical guidance that elevated our project from concept to reality. What began as a competition entry evolved into something much more significant: a real solution to Delhi's driving safety crisis, and a profound lesson in applying technology to meaningful problems. As someone focused on design, I now see how my skills in bridging gaps between different domains can create impactful solutions where hardware, software, and user experience converge.

By Harsh Kumar