

Women In Automotive Interview Series

Part of Informa Tech Automotive Group's Summer Festival of Automotive.

In partnership with:



Meet Nandita Mangal, Platform Owner HMI - Vehicle Experience, Aptiv

1. Why did you get involved in automotive?

The relationship between humans and machines has been a topic that has really fascinated me from the beginning of my career. After graduation, I got a unique opportunity to be involved in research of smart military vehicles and ground robots. It was an immersive learning experience for me, as human robotic interaction and human-machine teams have been investigated for decades in the defense sector. Cars are complex systems and such an intricate part of our daily lives. It seemed like a natural progression for me to explore human automation dynamics in the automotive space.



2. What are you most excited about that you are working on right now?

My work focuses on systems with various levels of autonomy, where they are "safe by design" and centered around human vehicle interactions under automation inside the cabin. We are building systems that support building an important relationship with the driver focused on trust and safety. I view it as a collaborative team relationship, where an automated vehicle augments a driver's decision-making ability and provides intelligent assistance.

A big challenge (and yet exciting component of this) is to holistically monitor the driver and his physical, cognitive and emotional state. Humans are sophisticated beings, so the more a vehicle can understand and be aligned with it's team partner, the better.

3. How will your work impact the future of transportation?

NHTSA estimates that 94% of automotive crashes are due to human error. Instead of human error, I like to take a look at how "error-prone" a system is designed to be. Designing safe systems with humans in mind, especially with the help of the latest advances in AI and machine learning, will have a huge impact on saving lives and enhancing the overall human experience in mobility.

4. Why does diversity matter in this field? Anything in particular that you are doing to promote diversity in your company and/or our industry?

I think to meet future challenges of the automotive industry, it is very important to have diversity in perspectives as well as gender diversity. There are a host of disciplines from social sciences, psychology, human factors, as well as robotics, system engineering, and user experience design that are integral to developing effective solutions in mobility.

5. What advice do you have for rising women in this space?

When I participate in women initiative technology summits and panels, I always share my own story of combining engineering principles and design guidelines in my everyday work. For me, it's a rewarding

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experience to learn new concepts, connect the dots from multiple disciplines and apply it towards implementation of new innovations.

Thanks, Nandita for taking the time to talk to us about your experience working in Automotive.

For more insightful intelligence, please visit the [Summer Festival of Automotive](#).