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Catalysing Global Research Excellence

ARTIFICIAL INTELLIGENCE (AI): Embracing the Future





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## ABOUT THE MAGAZINE

RISE Magazine is published by Office of the Deputy Vice-Chancellor (Research and Innovation) with aims to highlight a research and innovation on multidisciplinary expert of fields in UiTM. It serves as a platform for researcher to showcase their high quality and impactful findings, activities and innovative solution through publication. Contribution of these ideas come from academicians, researchers, graduates and universities professionals who will enhance the visibility of research and stride to elevate Universiti Teknologi MARA to global standards. This is an effort to promote research as a culture that is accepted by all expertise.

# ABOUT UITM

Universiti Teknologi MARA (UiTM) is a public university based primarily in Shah Alam, Malaysia. It has grown into the largest institution of higher education in Malaysia as measured by physical infrastructure, faculty and staff, and student enrollment. UiTM is the largest public university in Malaysia with numerous campuses throughout all 13 states in Malaysia. There is a mixture of research, coursework and programmes offered to the students. The Office of the Deputy Vice-Chancellor (Research and Innovation) also known as PTNCPI (*Pejabat Timbalan Naib Canselor (Penyelidikan dan Inovasi)*) serves as a *Pusat Tanggungjawab* (PTJ) for navigating the research and innovation agenda of the university to achieve UiTM's goals. The PTNCPI office strives to mobilize faculty and campuses, fostering collaboration among researchers, with the aim of transforming the University by 2025 **Revolutionizing the Driving Experience:** Mercedes-Benz Cars and AI Technology

Not everyone can afford an expensive car with AI technology, and many people may not have the opportunity to experience the benefits of AI-powered driving. However, it is essential to note that as technology advances, the cost of implementing AI in cars may decrease, making it more accessible to a wider range of people. Moreover, some car manufacturers are starting to incorporate AI technology in their more affordable models, further increasing its accessibility to people with lower budgets.

Artificial Intelligence (AI) has been integrated into cars for several decades, with early applications focused on improving safety and performance. The use of AI in cars has been an ongoing process of innovation and refinement, with new applications and capabilities being developed over time to enhance safety, performance, and the overall driving experience.

Prominent car brands like Tesla, Audi, BMW, Mercedes, and many luxury car manufacturers are incorporating AI technology in various ways to elevate the driving experience and improve safety. While owning a Mercedes car may be more affordable than luxury or sports cars from other high-end brands like Ferrari or Lamborghini, it is still considered a luxury vehicle and might come with a higher price point compared to mainstream car brands.

Driving a Mercedes car offers a distinct experience compared to driving mainstream brand cars, as Mercedes is renowned for prioritizing comfort, performance, and highend features. The integration of Al in Mercedes cars is one of the key factors that differentiates them from mainstream car brands.

Although some mainstream car brands also use Al technologies in their vehicles, Mercedes has been at the forefront of innovatively integrating Al into their cars, evident through features like the MBUX infotainment system and smartphone integration, LED headlights and taillights with high-beam assist, active lane-keeping assist, active brake assist, adaptive cruise control, predictive maintenance, Hey Mercedes voice assistant, automatic climate control, rainsensing windshield wipers, power-adjustable front seats with memory, available panoramic sunroof, 10.25-inch touchscreen display, 10.25-inch digital instrument cluster, ambient lighting, and leather upholstery.

Comparing the driving experience of Mercedes cars with mainstream brand cars equipped with AI features requires firsthand experience. As a Mercedes-Benz A180 owner and driver of the latest model with full specifications, I can attest to the unique attributes of the Mercedes-Benz A180. The 2022 model, released in Europe in late 2021, incorporates some AI or related technologies in its features. For example, the smart seat adjustment utilizes AI and machine learning to customize and tailor the seat settings to individual driver preferences. The LED headlights and taillights feature a highbeam assist that employs AI to automatically regulate the high beams during nighttime driving. On the other hand, the rain-sensing windshield wipers and automated systems to provide convenience and comfort for drivers.

Mercedes cars offer multiple driving modes, such as eco mode, sport mode, comfort mode, and individual mode. Eco mode maximizes fuel efficiency by optimizing the car's settings for low fuel consumption, while sport mode enhances the driving experience by adjusting various settings to provide a more engaging and dynamic driving experience. The sound of a car is primarily influenced by its engine and exhaust system, rather than its driving mode.



Another noteworthy feature in Mercedes cars is Active Lane Keeping Assist, which employs AI and sensors to detect the car's position within its lane and provides automatic steering corrections to keep it centered. The system uses a camera to monitor lane markings and other vehicles on the road, detecting when the car is drifting out of its lane. If the system detects unintentional lane departure, it can provide a warning and automatically steer the car back into the correct position. This AI-powered feature enhances safety and reduces driver fatigue, particularly on long drives or in heavy traffic.

Al-powered infotainment systems, advanced driver assistance systems, and personalized driving modes all contribute to enhancing the driving experience and providing added convenience and safety for Mercedes drivers. Additionally, Mercedes cars boast a higher level of refinement and attention to detail in their design and construction, creating a more luxurious and comfortable driving environment. Overall, driving a Mercedes car offers a unique and rewarding experience that sets it apart from mainstream car brands.



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