

WHEELS OF INNOVATION

AUTOMOBILE ENGINEERING DEPARTMENT MAGAZINE
2023-24 ACADEMIC YEAR



VOL 1 | ISSUE 1

EDITORIAL BOARD



WHEELS OF INNOVATION

2023-24 ACADEMIC YEAR

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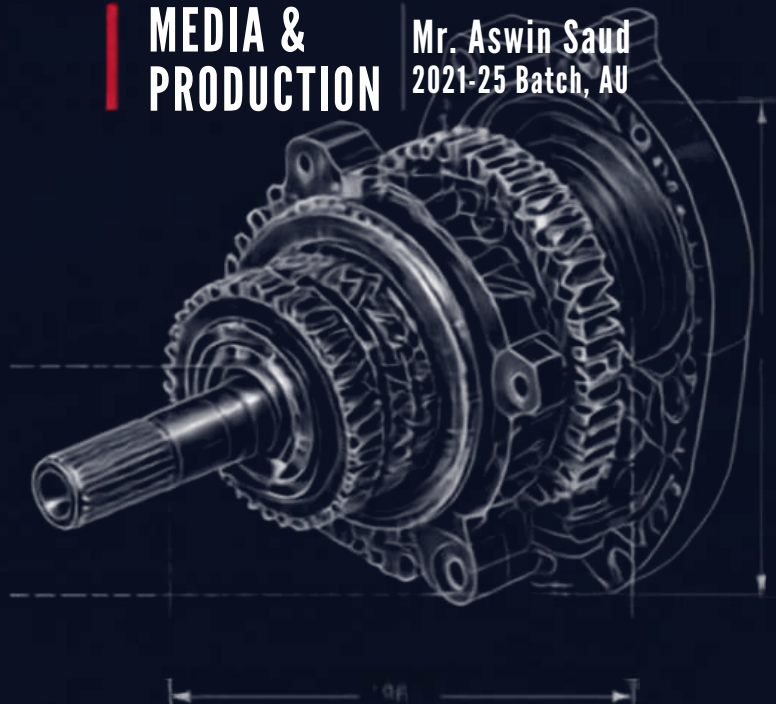


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ABOUT THE DEPARTMENT

Established in 2004, our Department of Automobile Engineering is not just about traditional learning. We immerse our students in the latest trends through seminars, workshops, and interactions with industry experts. With a robust UG program welcoming aspiring engineers each year, we ensure you're not just academically sound but industry-ready. Our value-added courses each semester bridge the academic-industry gap, empowering you to undertake core domain projects. Dive into hands-on experiences in our expansive 5000 sq. ft Automobile Lab, equipped for all your innovative endeavours. And it's not just about studies; our associations 'SAEIndia Collegiate club of SCMS' & 'TORQUE' offer platforms for you to organize and participate in riveting technical events. Join us, and find yourself in esteemed companies like Mahindra, JK Tyres, TVS, and Bosch after graduation.

VISION & MISSION

VISION

To be a centre of excellence in disseminating knowledge in the automobile engineering domain.

MISSION

Provide automobile related education of exceptional quality to students by inculcating a thirst for knowledge through adequate practical exposure and classroom sessions.



Where Theory Meets the Asphalt

MESSAGE FROM THE HOD



As you explore the pages of this academic year's magazine, you are looking at a vibrant reflection of the dedication, curiosity, and forward-thinking spirit that drives the Department of Automobile Engineering.

The automotive sector is evolving at an unprecedented pace, marked by a decisive shift toward sustainable mobility, advanced technological innovations, and intelligent vehicle systems. This edition captures that momentum wonderfully, featuring a rich blend of cutting-edge technical articles on advanced automotive technologies, insightful literature reviews, engaging travelogues, and a comprehensive chronicle of our department's latest achievements and milestones.

Our students and faculty continue to bridge the gap between rigorous classroom theory and real-world application. Whether they are analyzing emerging vehicle architectures, documenting scholarly literature, or sharing experiences from the road, our community consistently demonstrates a passion for pushing engineering boundaries.

I extend my heartfelt appreciation to the editorial board, faculty coordinators, and all our student contributors whose hard work brought this publication to life. May these pages inspire you to remain curious, embrace sustainable innovation, and continue driving the future of mobility.

Dr. Jenson Joseph E.

Professor & Head of the Department
Department of Automobile Engineering
SCMS School of Engineering & Technology



Wheels of Innovation

EDITORIAL

Welcome to Wheels of Innovation, the official magazine of the Department of Automobile Engineering. As we reflect on an extraordinary period of exploration, this issue captures the heartbeat of modern mobility and engineering passion.

The automotive landscape is undergoing a massive shift toward a sustainable, intelligent, and software-defined future. Throughout this edition, we bridge rigorous academic theory with real-world industrial evolution.

Our technical features dive into Next-Generation Advanced Driver Assistance Systems (Level 2+ ADAS), exploring how surround radars and domain controllers create a protective electronic cocoon. We also examine the structural blueprint of EV Skateboard platforms, illuminating how modular layouts and advanced battery packs reshape sustainable mobility.

Engineering is equally about community and spirit. This edition highlights our vibrant campus ecosystem through reports on the high-energy TORQUE & iCREATE Spark EV Innovation Challenge and the intellectual rigor of the SAEIndia Collegiate Club Tier I Auto Quiz.

Beyond the labs, join us on an eco-conscious expedition through the high ranges of Wagamon, Peermed, and Kuttikkanam in an electric SUV, proving technology and nature can coexist. Finally, we explore the emotional core of our fascination with machines—from the mechanical heartbeat in "The Iron Pulse" to the touching human narrative in "The Last Gear."

Mr. Jyothiss C.

2020-24 Batch

Chief Editor

Department of Automobile Engineering

SCMS School of Engineering & Technology

The Iron Pulse

The piston rests in the silent bore,
A chamber sealed, awaiting power.
Valves unlock the intake breath,
Drawing air and fuel from underneath.
The compression stroke begins to climb,
Synchronized in faultless time—
Pressure builds, the molecules align,
Waiting for the spark's design.

A sudden flash, a violent bloom,
The combustion front consumes the room.
"I burn," it thinks through searing heat,
"To make man's journey true and complete."
The chemical bonds of hydrocarbon chains
Release their fury to break the chains
Of static earth and heavy weight,
Impelling motion through steel and gate.

The crown descends with a thunderous blow,
Converting fire to rotary flow.
The crankshaft turns, the flywheel spins,
And human distance loses, and wins.
Exhaust valves open to clear the track,
As the cycle restarts and never looks back—
A mechanical heart that burns in pain,
So wheels may conquer the open plain.

Hemanth Kumar T. S.
2021-25 Batch AU

The Skateboard Revolution

HOW PURE EV PLATFORMS ARE REDEFINING AUTOMOTIVE ENGINEERING

For over a century, the internal combustion engine (ICE) dictated the anatomy of an automobile. Transmission tunnels carved through cabins, fuel tanks dictated rear underbody packaging, and heavy engine blocks defined front-end crash structures. When automakers first began electrifying vehicles, they simply retrofitted these legacy frames—stuffing battery modules into awkward gaps left by exhaust pipes and fuel lines.

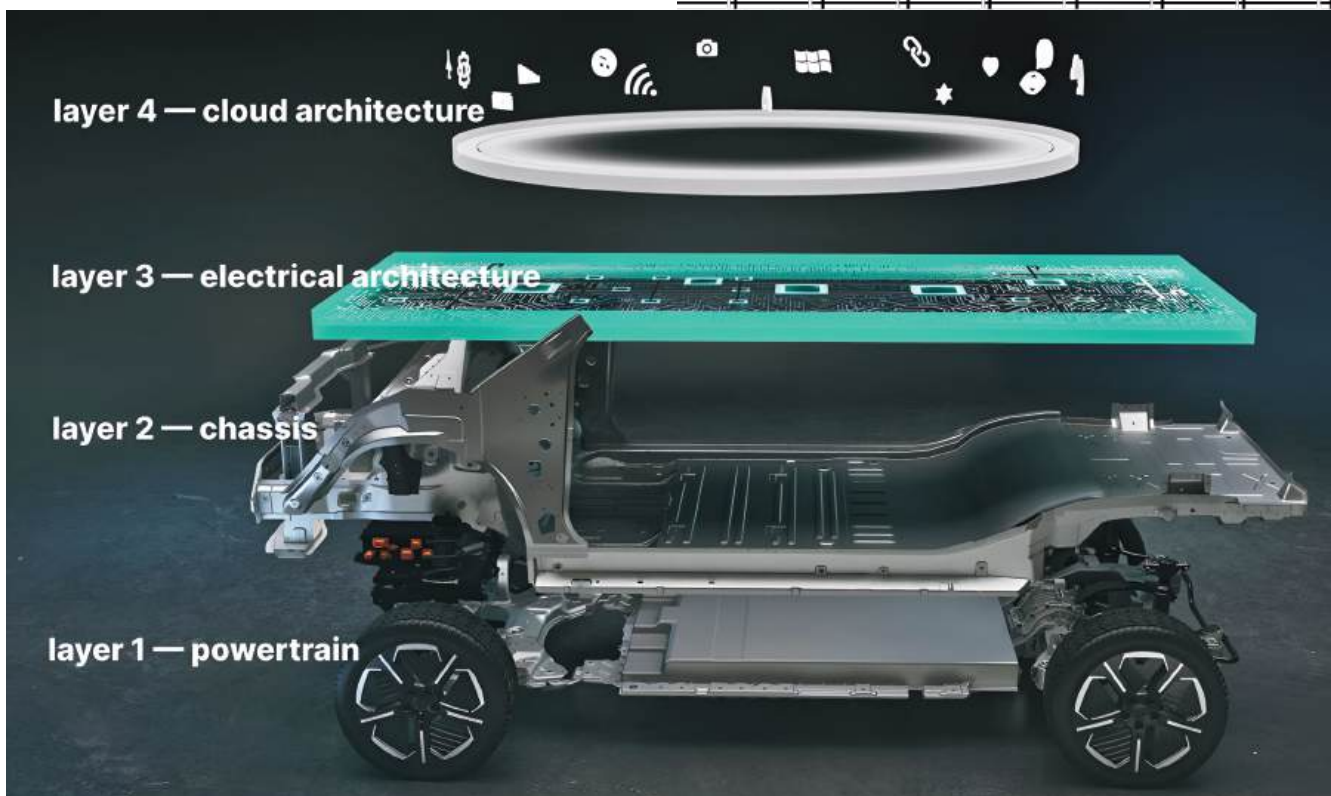
The industry has firmly turned a page. Dedicated EV skateboard platforms represent a foundational shift from legacy adaptations to pure, built-from-the-ground-up electric architectures. By housing the battery, drive units, and core power electronics into a flat, load-bearing underbody "skateboard," manufacturers have unlocked unprecedented freedom in cabin design, space management, and multi-configuration battery deployment.

A prime real-world example of this approach is Tata Motors' acti.ev platform (Advanced Connected Tech-Intelligent Electric Vehicle). Serving as the foundation for modern electric passenger cars starting with vehicles like the Punch.ev, it highlights the true potential of scalable EV engineering.

The Architecture of a Pure EV Skateboard

Unlike "converted" platforms, a dedicated EV skateboard organizes the vehicle into distinct, highly efficient layers:

- **Layer 1: The Powertrain Base:** Houses the permanent magnet motors, high-density battery pack, and power electronics in a low, flat orientation that drastically lowers the vehicle's center of gravity.
- **Layer 2: The Scalable Chassis:** Enables multiple "top hats"—different body styles like SUVs, sedans, or crossovers—to sit on the exact same structural base. It features a completely flat interior floor and creates dedicated storage spaces like a front trunk (frunk).
- **Layer 3 & 4: E/E and Cloud Architecture:** Integrates advanced centralized computing units to handle high-speed 5G connectivity, seamless over-the-air (OTA) updates, and advanced Level 2+ ADAS suites.



Multi-Configuration Battery Architectures

The true engine of efficiency in a modern skateboard platform lies in how the battery is packaged. Multi-configuration architectures allow automakers to vary cell chemistries, pack shapes, voltage levels, and capacities within the exact same structural footprint.

1. Volumetric Efficiency via Orthogonal Design

Older EV conversions typically crammed battery modules into irregular shapes to fit where gas tanks once sat. Skateboard platforms utilize wider, orthogonal (rectangular and square) configurations. In platforms like acti.ev, this layout yields a 10% improvement in volumetric efficiency. By eliminating dead space between modules, engineers pack more active cell material into the exact same structural perimeter.

2. Chemistry & Cell Agnosticism

Because the outer skateboard frame handles side and pole crash impacts using ultra-high-strength steel, the inner battery cavity remains mechanically isolated and modular. Advanced skateboards feature geometrically symmetrical trays that give engineers the freedom to swap between:

- Cell Formats: Prismatic, cylindrical, or blade configurations.
- Chemistries: Economical Lithium Iron Phosphate (LFP) for urban commuter cars versus high-density Nickel Manganese Cobalt (NMC) for long-range variants.

3. Scale-on-Demand Capacities

Multi-configuration layouts allow a single vehicle platform to service vastly different market segments. By populating or depopulating internal modules within the orthogonal pack frame, range can be scaled dynamically. For instance, the acti.ev architecture effortlessly scales to deliver anywhere from 300 km to 600 km of range, depending on the price tier and packaging constraints of the vehicle.

4. Drivetrain & Charging Versatility

Because power distribution units and high-voltage cables are neatly integrated inside the flat frame, altering vehicle dynamics is largely a matter of modular engineering. The framework natively supports:

- Drivetrain Modularity: Front-Wheel Drive (FWD), Rear-Wheel Drive (RWD), or dual motor All-Wheel Drive (AWD) layouts.
- Advanced Electrical Flexibility: Systems support high-speed DC fast charging (capable of adding up to 100 km of range in just 10 minutes) alongside bidirectional capabilities like Vehicle-to-Load (V2L) and Vehicle-to-Vehicle (V2V) power delivery.



Melvin C. Joshy
2020-24 Batch AU

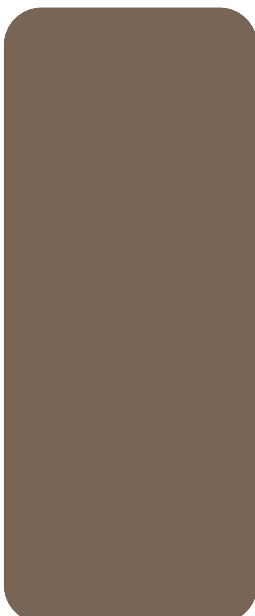
By breaking away from the constraints of the combustion engine, skateboard platforms have transformed the automobile from a mechanical compromise into a modular, software-driven canvas.

TORQUE & iCREATE Spark EV Innovation

AUGUST 24, 2023 • SSET CAMPUS

Empowering the next generation of electric mobility pioneers, TORQUE, the student association of the Automobile Engineering Department, partnered with iCreate to host the highly anticipated "EVangelise-2023, Innovation Challenge/RISC-V" at the SCMS School of Engineering & Technology (SSET) campus. The full-day innovation drive served as a dynamic platform for students, early-stage startups, and EV enthusiasts to interact with top-tier technical experts. Building on the massive success of its previous editions—which saw over 2,000 applications and ₹1.5 Crores in prize money—the 2023 roadshow brought invaluable incubation opportunities directly to SSET students.

The event featured a distinguished expert delegation where Dr. Gurusamy Ramakrishnan shared 32 years of expertise in IoT, cryptography, and startup mentorship, while Ms. Gladis Nair and Mr. Vijay Nair delivered insights on professional transformation and corporate environments. Additionally, Mr. Parth Suthar and Mr. Vijoy KR guided participants on data analytics, startup marketing, and personal branding. The inspiring day successfully culminated in an exciting opportunity for top participants to advance to the national Finale of EVangelise '23.



Journey to the Mist: A Silent Ascent to Wagamon, Peermed, and Kuttikkanam in the Tata Harrier EV

There is a distinct, almost ethereal quiet that comes with exploring the high ranges of Kerala without the constant thrum of an internal combustion engine. When our travel plans pointed toward the lush, mist-shrouded green hills of Wagamon, Peermed, and Kuttikkanam, we chose a companion built precisely for this modern era of travel: the Tata Harrier EV.

With its silent electric powertrain, instant torque delivery, and sophisticated dual-motor setup, the Harrier EV promised a seamless blend of raw capability and serene exploration. Packing our bags, we left the urban clutter behind, steering our course eastward toward the winding mountain passes of the Western Ghats.

Phase I: The Silent Ascent – From Plains to the Pine Forests of Wagamon

Our journey commenced in the early morning light, giving the Harrier EV's high-capacity battery pack an optimal thermal window. Gliding silently through the initial highway stretches, the vehicle's low center of gravity—courtesy of its dedicated skateboard architecture—immediately revealed its character. Overtaking slower traffic required nothing more than a gentle press of the accelerator, translating into an instantaneous, linear surge of power without a single gearshift lag.

As we crossed Erattupetta and began the steep climb toward Wagamon, the landscape dramatically shifted. The asphalt ribbon began to coil tighter, revealing sweeping valleys carpeted in tea plantations. This is traditionally where diesel SUVs groan under heavy throttle loads, but the Harrier EV climbed the hairpin bends with effortless poise.



By afternoon, we reached the iconic pine forests of Wagamon. Walking beneath the towering, needle-strewn canopy, the silence of the woods mirrored the absolute quiet of our parked vehicle. Regenerative braking proved to be a revelation on the downhill descents back toward the valleys; instead of burning brake pads, every steep switchback fed precious kilowatt-hours back into the battery pack, optimizing our range profile effortlessly.

Phase II: Through the Colonial Echoes of Peermed

Leaving the breezy meadows behind, we navigated southward along the rolling ridges toward Peermed (Peeru Hills), a historic plantation town steeped in colonial legacy. Named after the Sufi saint Peer Mohammed, this region wears its history in the form of old Planters' bungalows, sprawling cardamom estates, and colonial-era churches shaded by ancient silver oaks.

Driving through Peermed in an electric vehicle feels entirely appropriate; the whispered hum of the electric motors harmonizes with the rustling canopy of the tea estates rather than disrupting it. We stopped near an old rubber and tea research settlement, where the Harrier EV's advanced connectivity and digital cockpit interface handled ambient climate control and navigation seamlessly, keeping the cabin an oasis of comfort against the fluctuating mountain weather.

The vehicle's multi-configuration chassis absorbed the occasional rough patch of plantation gravel roads with mature composure, isolating the cabin from jarring bumps while maintaining crisp steering feedback.

Phase III: The Misty Slopes of Kuttikkanam and the Journey Back

Our final upland leg brought us to Kuttikkanam, nestled at an elevation of over 3,500 feet in the Idukki district. Known as the summer resort of the Travancore kings, Kuttikkanam greeted us with rolling hills completely swallowed by dense, low-hanging clouds and rolling fog.

Navigating the steep, slick inclines of Kuttikkanam during a sudden mountain drizzle tested the vehicle's traction capabilities. The dual-motor intelligent All-Wheel Drive (AWD) layout distributed torque dynamically to all four wheels, ensuring absolute plant and poise even on wet, moss-slicked tarmac. We parked near the historic Ammachi Kottaram (summer palace ruins) and spent hours taking in the ethereal vistas where clouds drift right through the coffee and tea yards.

As dusk settled, painting the hills in deep indigo and charcoal hues, we prepped for the descent back toward the plains. Thanks to the high-speed DC fast-charging infrastructure peppered along our return corridor and the Harrier EV's stellar energy management, range anxiety remained a non-entity.

Drifting down the mountain slopes under the glow of LED matrix headlamps, the Harrier EV delivered more than just transport—it provided a masterclass in how sustainable mobility can coexist harmoniously with some of the most fragile, breathtaking ecosystems in the Western Ghats.

Hisham Abdul Salam
2020-24 Batch AU

Next-Generation Advanced Driver Assistance Systems (Level 2+ ADAS with Surround Radars)

Modern automotive engineering has transcended mechanical propulsion, evolving into a landscape governed by active intelligence and real-time electronic safety layers. Among the most transformative breakthroughs in contemporary vehicle architectures is the widespread deployment of Level 2+ Advanced Driver Assistance Systems (ADAS) paired with comprehensive surround radar and camera sensor arrays. As featured in flagship electric architectures like the Tata Harrier EV, these next-generation active safety suites redefine how vehicles perceive, analyze, and react to complex driving environments.

The Sensor Architecture: How the Vehicle "Sees"

Unlike legacy safety systems that relied solely on basic windshield-mounted cameras, Level 2+ systems utilize a 360-degree sensor cocoon:

- **Long-Range Front Radars & Cameras:** Concealed behind sleek bumper elements and upper grilles, these units precisely gauge distance, closing speeds, and lane markings across vast stretches of highway.
- **Ultrasonic & Corner Radars:** Integrated into the vehicle body panels to monitor blind spots, cross-traffic hazards, and tight parking parameters continuously.
- **Cabin-Facing Infrared Sensors:** Work in tandem with steering wheel capacitive touch sensors to track driver alertness, posture, and gaze orientation.

Core Functional Capabilities of Level 2+ ADAS

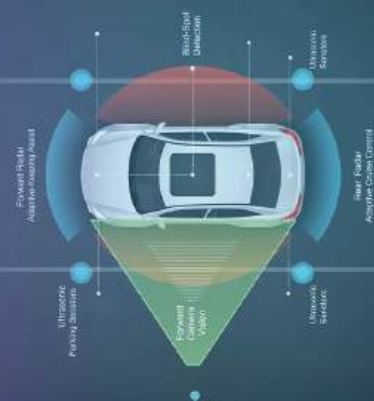
1. **Adaptive Cruise Control with Stop-and-Go:** Dynamically matches preceding vehicle speeds, managing complete stops and smooth acceleration in traffic to reduce fatigue.
2. **Lane Centering & Lane Departure Prevention:** Uses high-definition optical tracking to maintain lane center, applying counter-steering torque if an unintended drift occurs without a turn indicator.
3. **Autonomous Emergency Braking (AEB) with Pedestrian & Cyclist Detection:** Computes collision trajectories in real time, issuing alerts and applying maximum braking if obstacles or pedestrians cross the path.
4. **Blind-Spot Monitoring & Rear Cross-Traffic Alert:** Side and rear radars scan adjacent zones during lane changes or reversing, flashing warnings to prevent collisions.

The Software-Defined Backbone

Level 2+ ADAS relies on centralized domain controllers and high-speed E/E architectures processing millions of lines of code per second. By cross-referencing radar and optical data, these systems filter false positives and deliver instantaneous safety interventions toward full autonomy.

Adithyan J. Biju
2022-26 Batch AU

Advanced Driver Assistance Systems (ADAS)



SAEIndia Collegiate Club: Tier I Auto Quiz

NOVEMBER 20, 2023 • MINI CONFERENCE HALL

On November 20, 2023, the Mini Conference Hall at the Administrative Block buzzed with anticipation and competitive energy as the SAEIndia Collegiate Club of SCMS (Cochin Division) hosted its highly anticipated Tier I Auto Quiz. Designed meticulously to test both the technical acumen and the quick-thinking abilities of aspiring engineers, this event served as a true showcase of passion for automotive engineering. Backed by a robust and thriving collegiate club membership of 55 students, the fast-paced event witnessed active participation from 17 sharp, enthusiastic engineering minds who came together in teams to tackle rigorous rounds of automotive trivia and core engineering principles.



The competition was structured to challenge participants across multiple demanding tiers, covering everything from historical automotive milestones and thermal dynamics to modern vehicle design, powertrain mechanics, and emerging global industry trends. Teams faced off in rapid-fire elimination rounds that required precise calculation, deep conceptual understanding, and split-second decision-making. The atmosphere in the hall was electric, with fellow students and faculty members cheering on the contestants as they navigated complex technical posers.

After hours of intense intellectual battle, the competition culminated in a thrilling prize distribution ceremony. The team comprising Nived A Babu, Advait Deepu M, and Eshan Bava Navas secured First Place, displaying exceptional automotive knowledge and seamless teamwork under pressure. Close behind them, the team of Akshai K Suresh, C Sanchjua Sajeer, and Vignesh S. Nair claimed Second Place following a highly commendable performance that kept the audience on the edge of their seats.

Beyond the thrill of competition, the Tier I Auto Quiz served a vital strategic purpose within the academic framework of the department. By exposing students to high-level technical challenges, the initiative kept young engineers deeply engaged with current industry trends, alternative propulsion systems, and advanced manufacturing concepts. Furthermore, it acted as a crucial stepping stone, identifying top-tier talent and effectively preparing participants to represent the institution with confidence at upcoming regional and national SAEIndia conventions. Events like these continue to reinforce the department's commitment to holistic technical education, bridging the gap between classroom theory and real-world automotive excellence.

The Last Gear

The garage smelled of old motor oil, damp cardboard, and the faint, sweet scent of lingering coolant. For twelve-year-old Karthik, that garage was more than just a shelter for metal and rubber; it was a sanctuary.

Parked under a dusty tarp in the corner sat a gleaming midnight-blue 2008 Maruti Esteem. It wasn't just any car. It was his father's pride, bought second-hand the year Karthik was born. Every weekend, Karthik and his father would spend hours out here. His father would teach him how to check the oil, how to polish the chrome grille until it reflected the overhead bulb, and how to listen to the steady, rhythmic purr of the engine. To Karthik, that car possessed a heartbeat. It had driven them to school on rainy mornings, taken them on bumpy monsoon road trips to Munnar, and held the echoes of his father's laughter during countless evening drives with the windows rolled down.

Lately, though, the garage had grown quiet.

The laughter had stopped months ago, replaced by late-night kitchen whispers, the rustle of overdue utility bills, and the heavy, exhausted sighs of his mother. Ever since his father's sudden illness and subsequent medical debt, the family's savings had evaporated. Every asset had been scrutinized.



On a Tuesday evening, Karthik came home from school and found the side door open. Inside the garage, the overhead light was harsh and glaring.

His mother stood beside the car, her hand resting flat against the blue hood. Facing her was a stranger holding a thick folder of papers and a clipboard.

Karthik's chest tightened. He dropped his school bag by the workbench. "Amma? What's happening?"

His mother turned, her eyes red-rimmed and hollowed by stress. She forced a fragile, heartbreaking smile. "Karthik, mone... come here."

The stranger was a broker. The final buyer had arranged for a tow truck to pick up the Esteem the next morning. The medical bills had piled past the point of no return, and the bank loan on the house was looming. The car—the last tangible piece of security, the vessel of their happiest memories—had to be sold.

"No," Karthik whispered, his voice cracking. He rushed forward, throwing his arms around the cold metal of the front fender as if he could physically anchor it to the concrete floor. "You can't. Appa promised me we'd fix the alternator together this summer. He said this car would teach me how to drive!"

"Karthik, look at me," his mother said gently, kneeling down to pull him into a tight, trembling embrace. "It's just metal, mone. It's just paint and tires. Your father is alive, and we are together. That's what matters."

"It's not just metal!" Karthik sobbed into her shoulder. "It's Appa's dream. It's us."

That night, sleep evaded him. Around 2:00 AM, Karthik slipped out of bed, padded quietly down the hall, and unlocked the back door leading to the garage.

The garage was pitch black except for a thin sliver of moonlight cutting through the small window. He walked over to the Esteem, climbed into the driver's seat, and closed the door softly. The cabin smelled familiar—old leather, faint cardamom, and his father's cedarwood aftershave that still lingered on the rearview mirror.

He rested his hands on the steering wheel. Tears slipped down his cheeks, hot and silent. He thought about his father lying upstairs, recovering slowly, unaware that his beloved car was being stripped away because he couldn't work.

"I'm sorry," Karthik whispered to the dashboard. "We tried."

He reached out and turned the key in the ignition to the accessory position. The dashboard lights flickered to life—a comforting, amber glow illuminating the speedometer and fuel gauge. He didn't crank the engine; he didn't want to wake the house. Instead, he just sat there in the warm, artificial amber light, memorizing the texture of the wheel, pretending for a brief, fragile moment that the world outside hadn't changed, that tomorrow wouldn't bring a tow truck.

The next morning arrived with a pale, unforgiving gray dawn.

A heavy-duty flatbed tow truck pulled up to the gate, its diesel engine rumbling, breaking the morning silence. The driver unclipped the loading ramps with a loud metallic clatter. Karthik stood on the porch, his school uniform neatly pressed, his fists clenched so tightly his knuckles turned white. His mother stood beside him, clutching a handkerchief. The broker walked up the driveway, holding a pen and a final receipt. "Ma'am, if you could just sign here..."

As his mother reached for the pen, a slow, shuffling footstep echoed from the doorway behind them.

They all turned.

His father was standing there. He looked thin, leaning heavily against the doorframe, wrapped in a woolen shawl. His face was pale, but his eyes—those fierce, determined eyes—were locked entirely on the tow truck, and then on the midnight-blue car.

"Ramesh, you shouldn't be out of bed," his mother gasped, rushing to his side.

His father didn't answer right away. He raised a hand, stopping her. Slowly, painfully, step by step, he walked down the porch stairs and crossed the concrete driveway. He didn't look at the broker, nor did he look at the paperwork. He walked straight to the front of the Esteem.

He placed his palm on the hood, right where Karthik had cried the night before. He looked at the dust on the windshield, then looked down at his son, who was staring at him with wide, tear-filled eyes.

"We don't sell her," his father said softly, his voice raspy from months of disuse, but carrying an absolute, unyielding finality.

His mother's voice caught. "Ramesh... the medical bills... the bank—we have no choice."

His father turned his head, looking at his wife, then back at the car. "I kept this car running through worse times than this. I built my life around the steering wheel of this machine. A man finds another way." He reached into the pocket of his kurta and pulled out an old, worn silver pocket watch—a family heirloom handed down by his own father. He held it out toward the broker. "Take this as collateral for the immediate extension. Give me three months."



The broker stared at the watch, then at the fierce, unyielding dignity in the sick man's eyes. Slowly, the broker lowered his clipboard. He looked at the tow truck driver, shook his head, and waved him off. The flatbed backed out of the driveway, its engine fading into the morning air.

Karthik didn't wait. He broke into a run, sprinting across the concrete, and threw his arms around his father's waist, burying his face in his shawl. His father wrapped his arms around the boy, resting his chin on Karthik's head, both of them staring out at the midnight-blue car that still sat safely in its corner.

The garage wasn't just a shelter for metal anymore. It was a place where things that mattered were saved.

Deepak B.
2022-26 Batch AU



Congratulations

On your Placement at
ZF Commercial Vehicles



Melvin C Joshy
Automobile Engineering
2020-24 Batch



Jonathan C Jacob
Automobile Engineering
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Amal A
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Vignesh S Nair
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SAEIndia Collegiate Club Of SCMS - Steering The Revolution In Automobile Engineering

At the heart of SCMS lies the SAEINDIA Collegiate Club, a beacon of innovation and excellence in the automotive world. Established with a vision, our club is not just about imparting knowledge; it's about igniting passion. We're here to shape the next generation of automotive engineers, offering them a platform where ideas accelerate into reality.

Through immersive hands-on workshops, exhilarating competitive events, and invaluable industry collaborations, we ensure our students are always a gear ahead. For those with a drive to redefine the automotive landscape, our club is the pitstop where your journey begins. Dive in, and let's drive the future, together.



Torque - The Driving Force of Automobile Engineering at SSET

Embark on a transformative journey with TORQUE, the distinguished Automobile Engineering Students' Association at SCMS, Karukutty. As emerging engineers, TORQUE offers you a unique platform to delve deep into the dynamic world of automotive engineering, ensuring you're always at the forefront of innovation. Our association is not just about understanding the mechanics; it's about envisioning the future of mobility. Beyond the technicalities, TORQUE is committed to fostering a community of learners. We introduce you to a spectrum of disciplines, ensuring a well-rounded perspective. Engage in collaborative projects, benefit from hands-on experiences, and connect with industry experts. With TORQUE, you're not just studying engineering; you're living it, ensuring a holistic development tailored for every ambitious student.



**WHEELS OF
INNOVATION**

ENGINEERED FOR WHAT'S NEXT

Thank you for being part of the
journey. We'll see you in the next issue.



THE FUTURE OF **MOBILITY** IS **INTELLIGENT**

01 | **CONNECTED
VEHICLES**

02 | **AUTONOMOUS
TECH**

03 | **SUSTAINABLE
CITIES**

04 | **E-MOBILITY
ECOSYSTEM**

