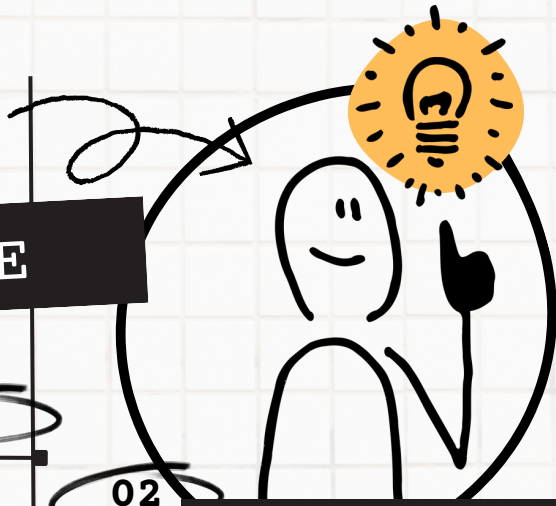


# Applied AI

## AUTOMOTIVE

07.28



### 01 WHY AI?

- Enhanced safety features
- Improved manufacturing efficiency
- Personalized customer experiences
- Autonomous driving development
- Eco-friendly innovations

### 02 INDUSTRY

- Vehicle Design
- Vehicle Manufacturing
- Vehicle Sales
- Vehicle Aftermarket Services
- Vehicle Research & Development.

### 03 STRATEGIC TRENDS

- Electric vehicles (EVs)
- Autonomous driving tech
- Connected car systems
- Shared mobility services
- AI in manufacturing
- Sustainable materials use
- Digital retailing
- Vehicle-to-everything (V2X) communication
- Predictive maintenance
- Cybersecurity enhancements

### 04 WHY CHANGE?

- Emission regulations
- Consumer safety demand
- Competitive market
- Technological advances
- Urbanization challenges

### 05 LEADING COMPANIES

- Tesla
- Toyota
- Volkswagen
- Ford
- BMW
- General Motors
- Volvo
- Mercedes-Benz
- Honda
- Nissan

### 06 ENABLING TECHNOLOGIES

- Electric drivetrains
- AI-powered autonomous systems
- IoT connectivity
- Lightweight composite materials
- 3D printing in prototyping
- Augmented reality in design
- Blockchain for supply chain
- Big data analytics
- Robotics in assembly lines
- Advanced driver-assistance systems (ADAS)

### 07 AI DISRUPTION

- Self-driving algorithms
- AI in quality control
- Predictive analytics for maintenance
- Personalized in-car AI assistants
- Machine learning for traffic patterns
- AI-driven safety features
- Smart manufacturing robots
- Natural language processing for voice commands
- AI in vehicle testing
- Customer behavior prediction models

### 08 GREAT EXAMPLES OF AI

- Tesla's Autopilot for semi-autonomous driving
- Waymo's fully autonomous driving technology
- BMW's Intelligent Personal Assistant
- Ford's use of robots in manufacturing
- Toyota's AI-powered safety systems
- Nissan's ProPILOT Assist
- Volvo's autonomous electric buses
- Mercedes-Benz's MBUX voice assistant
- Audi's traffic jam pilot system
- GM's OnStar Go with IBM Watson

### 09 ECOSYSTEM REQUIREMENTS

- High-speed data networks
- Advanced computing infrastructure
- Skilled AI workforce
- Collaborative industry standards
- Government regulatory support

### 10 NEW RISKS

- Cybersecurity threats
- Ethical concerns in AI decisions
- Job displacement fears
- Data privacy issues
- Liability in autonomous accidents

## MISUSE

- Hacking of connected vehicles
- Misuse of driver data
- AI biases in decision-making
- Unauthorized surveillance
- Manipulation of autonomous systems

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## DILEMMAS

- AI control vs. human oversight?
- Privacy vs. convenience in connected cars?
- Ethical AI use in life-or-death decisions?

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## ORG. REQUIREMENTS

- Robust cybersecurity measures
- Continuous AI skill development
- Ethical AI development frameworks
- Cross-sector collaboration
- Agile product development cycles

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## STEP BY STEP AI

- Identify AI use cases
- Pilot AI in limited scenarios
- Scale AI solutions across operations
- Continuously monitor AI performance
- Adapt AI systems to feedback

## BEST PRACTICES

- Prioritize safety in AI applications
- Maintain transparency in AI decisions
- Foster cross-industry partnerships
- Invest in AI ethics research
- Embrace agile methodologies

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## AI MODELS

- Convolutional neural networks for image recognition
- Reinforcement learning for autonomous driving
- Generative design algorithms for vehicle parts
- Predictive models for maintenance
- Sentiment analysis for customer feedback

## DIGITAL TWINS

- Digital twins for vehicle design
- Virtual production lines for efficiency testing
- Simulation models for autonomous driving scenarios
- Digital replicas of supply chains
- Virtual showrooms for customer experience

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## GLOBAL LEADERS

- Germany: Luxury and engineering precision.
- Japan: Efficiency and innovation.
- United States: Electric vehicle pioneers.
- South Korea: Advanced technology integration.
- Sweden: Safety and sustainability focus.

## FUTURE JOBS

- Autonomous vehicle engineer
- EV battery technician
- AI algorithm developer
- Cybersecurity specialist for automotive
- Sustainable materials researcher

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## THE FUTURE OF AI

- Fully autonomous driving
- AI in personalized vehicle design
- Smart traffic management systems
- AI for sustainable manufacturing
- Enhanced in-vehicle AI assistants

## RECOMMENDED READING

- "Autonomy" by Lawrence D. Burns
- "The Future Is Faster" Diamandis & Kotler
- "Drive" by Daniel H. Pink
- "The Upstarts" by Brad Stone
- "Clean Disruption of Energy and Transportation" Seba

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## TED TALKS

- "Autonomous Cars' Impact" - Tony Seba
- "Self-Driving Ethics" - Patrick Lin
- "Imagining Futures" - Anab Jain
- "Off-Grid Solar" - Amar Inamdar
- "AI's Industrial Revolution" - Kevin Kelly

## ONLINE RESOURCES

- Automotive News: Latest in the automotive industry.
- Motor Trend: Car reviews and automobile news.
- Autoblog: Up-to-date automotive news and reviews.
- Car and Driver: Auto industry news and vehicle evaluations.
- Automotive World: Mobility and automotive industry insights.

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## NEXT STEPS

- Engage with AI technology.
- Identify opportunities for AI application.
- Invest in AI education and training.
- Please contact us at [hello@nextpaper.me](mailto:hello@nextpaper.me) for further exploration or inspiration through a [talk](#), [workshop](#) or [case study](#). We'd love to help!



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