Professional Certificate in AI for Travel Industry

AI Applications in Ground Transportation

Accelerated Mobile Pages (AMP) is a term used to describe a web page technology that speeds up the loading of web pages on mobile devices, which can be useful for travel industry applications such as providing users with quick access to ground transportation information. Related terms include responsive web design and mobile-first development.
Accessibility refers to the design of transportation systems that can be used by people with disabilities, including those with visual, hearing, motor, or cognitive disabilities, and is an important consideration in the development of AI applications in ground transportation. Related terms include universal design and inclusive design.
Accuracy is a term used to describe the degree to which a machine learning model's predictions match the actual outcomes, which is critical in AI applications such as autonomous vehicles and predictive maintenance in ground transportation. Related terms include precision and recall.
Acoustic Sensors are a type of sensor that use sound waves to detect and measure the distance, speed, and other characteristics of objects, which can be used in ground transportation applications such as traffic monitoring and collision avoidance. Related terms include radar sensors and lidar sensors.
Actionable Insights refer to the information and recommendations generated by AI systems that can be used to inform business decisions and improve operations in the ground transportation industry. Related terms include business intelligence and data analytics.
Active Learning is a machine learning approach that involves selecting the most informative samples from a dataset to be labeled and used for training, which can be used to improve the accuracy of AI models in ground transportation applications. Related terms include passive learning and semi-supervised learning.
Activity-Based Modeling is a modeling approach that simulates the activities and travel patterns of individuals and households to understand transportation demand and behavior, which can be used to inform the development of AI applications in ground transportation. Related terms include trip-based modeling and tour-based modeling.
Adaptive Cruise Control is a technology that uses sensors and AI to adjust the speed of a vehicle based on the traffic conditions and the distance to the vehicle ahead, which can improve safety and reduce congestion in ground transportation. Related terms include lane departure warning and automatic emergency braking.
Adaptive Signal Control is a technology that uses real-time traffic data and AI to optimize the timing of traffic signals to minimize congestion and reduce travel times, which can be used to improve the efficiency of ground transportation systems. Related terms include intelligent transportation systems and smart traffic management.
Advanced Driver Assistance Systems (ADAS) refer to the technologies that use sensors, cameras, and AI to assist drivers and improve safety in vehicles, which can be used to enhance the safety and efficiency of ground transportation. Related terms include autonomous vehicles and vehicle-to-everything (V2X) communication.
Advanced Public Transportation Systems (APTS) refer to the technologies and systems that use AI, data

analytics, and other advanced technologies to improve the efficiency and effectiveness of public transportation systems, which can be used to enhance the passenger experience and reduce costs in ground transportation. Related terms include intelligent transportation systems and mobility-as-a-service (MaaS).

Agent-Based Modeling is a modeling approach that simulates the behavior of individual agents, such as travelers or vehicles, to understand complex systems and phenomena in ground transportation, which can be used to inform the development of AI applications. Related terms include microsimulation and macrosimulation.

Agile Development is a software development methodology that emphasizes flexibility, collaboration, and rapid iteration, which can be used to develop AI applications in ground transportation. Related terms include scrum and kanban.

AI-Powered Chatbots are computer programs that use natural language processing (NLP) and machine learning to simulate human-like conversations and provide customer support, which can be used to enhance the passenger experience in ground transportation. Related terms include virtual assistants and voice assistants.

Algorithmic Auditing is a process of evaluating and testing AI algorithms to ensure they are fair, transparent, and unbiased, which is critical in AI applications in ground transportation. Related terms include algorithmic accountability and model interpretability.

Alternative Fuel Vehicles refer to vehicles that use alternative fuels, such as electric, hybrid, or hydrogen fuel cell vehicles, which can reduce greenhouse gas emissions and improve air quality in ground transportation. Related terms include sustainable transportation and green transportation.

Ambient Intelligence refers to the integration of sensors, AI, and other technologies into the environment to create smart and responsive spaces, which can be used to enhance the passenger experience and improve safety in ground transportation. Related terms include internet of things (IoT) and smart infrastructure.

Anomaly Detection is a technique used to identify unusual patterns or behavior in data, which can be used to detect and prevent security threats in AI applications in ground transportation. Related terms include predictive analytics and machine learning.

Application Programming Interface (API) is a set of defined rules that enable different software systems to communicate with each other, which can be used to integrate AI applications with other systems in ground transportation. Related terms include software development kit (SDK) and data exchange.

Artificial Intelligence (AI) refers to the development of computer systems that can perform tasks that typically require human intelligence, such as learning, reasoning, and problem-solving, which can be used to enhance the efficiency and safety of ground transportation. Related terms include machine learning and deep learning.

Artificial Neural Networks (ANNs) are a type of machine learning model inspired by the structure and function of the human brain, which can be used to solve complex problems in ground transportation, such as image recognition and natural language processing. Related terms include convolutional neural networks (CNNs) and recurrent neural networks (RNNs).

Association Rule Learning is a technique used to discover patterns and relationships in data, which can be used to identify trends and preferences in ground transportation. Related terms include decision tree learning and clustering.

Asynchronous Communication refers to the exchange of information between systems or devices without

the need for simultaneous interaction, which can be used to enable real-time communication between vehicles and infrastructure in ground transportation. Related terms include synchronous communication and near-field communication.
Augmented Reality (AR) is a technology that overlays digital information and images onto the real world, which can be used to enhance the passenger experience and provide real-time information in ground transportation. Related terms include virtual reality (VR) and mixed reality (MR).
Autonomous Maintenance is a concept that refers to the use of AI and other technologies to predict and prevent maintenance needs in vehicles and infrastructure, which can reduce downtime and improve safety in ground transportation. Related terms include predictive maintenance and condition-based maintenance.
Autonomous Vehicles (AVs) refer to vehicles that can operate without human input or intervention, which can improve safety, reduce congestion, and enhance mobility in ground transportation. Related terms include self-driving cars and driverless vehicles.
Average Speed is a metric used to measure the average speed of vehicles over a given period of time or distance, which can be used to evaluate the performance of ground transportation systems. Related terms include travel time and traffic volume.
Backpropagation is a technique used to train artificial neural networks by minimizing the error between predicted and actual outputs, which can be used to improve the accuracy of AI models in ground transportation. Related terms include stochastic gradient descent and Adam optimization.
Bayesian Networks are a type of probabilistic graphical model that represents relationships between variables using probability theory, which can be used to model complex systems and make predictions in ground transportation. Related terms include decision trees and random forests.
Big Data refers to the large amounts of structured and unstructured data that can be used to inform business decisions and improve operations in ground transportation, which can be used to develop AI applications and improve the efficiency of ground transportation systems. Related terms include data analytics and business intelligence.
Bluetooth Low Energy (BLE) is a wireless personal area network technology that enables devices to communicate with each other over short distances, which can be used to enable communication between vehicles and infrastructure in ground transportation. Related terms include Wi-Fi and near-field communication.
Business Intelligence (BI) refers to the process of collecting, analyzing, and interpreting data to inform business decisions and improve operations in ground transportation, which can be used to develop AI applications and improve the efficiency of ground transportation systems. Related terms include data analytics and data visualization.
Capacity refers to the maximum number of vehicles or passengers that can be accommodated by a transportation system or facility, which can be used to evaluate the performance of ground transportation systems. Related terms include demand and supply.
Cellular Network is a wireless communication network that enables devices to communicate with each other over long distances, which can be used to enable communication between vehicles and infrastructure in ground transportation. Related terms include Wi-Fi and satellite communication.
Cloud Computing is a model of delivering computing services over the internet, which can be used to develop and deploy AI applications in ground transportation. Related terms include edge computing and fog computing.

Clustering is a technique used to group similar data points or objects into clusters, which can be used to identify patterns and trends in ground transportation data. Related terms include classification and regression.
Computer Vision is a field of study that focuses on enabling computers to interpret and understand visual data from images and videos, which can be used to develop AI applications in ground transportation, such as image recognition and object detection. Related terms include machine learning and deep learning.
Condition-Based Maintenance is a maintenance approach that involves monitoring the condition of vehicles or equipment and performing maintenance only when necessary, which can reduce downtime and improve safety in ground transportation. Related terms include predictive maintenance and autonomous maintenance.
Connected Vehicles refer to vehicles that are equipped with communication technologies, such as cellular or Wi-Fi, to enable real-time communication with other vehicles and infrastructure, which can improve safety, reduce congestion, and enhance mobility in ground transportation. Related terms include vehicle-to-everything (V2X) communication and dedicated short-range communication (DSRC).
Convolutional Neural Networks (CNNs) are a type of deep learning model that is particularly well-suited for image recognition and computer vision tasks, which can be used to develop AI applications in ground transportation, such as image recognition and object detection. Related terms include recurrent neural networks (RNNs) and artificial neural networks (ANNs).
Crowdsourcing is a method of collecting data or solving problems by soliciting contributions from a large group of people, which can be used to collect data on transportation patterns and preferences in ground transportation. Related terms include participatory sensing and human-centered design.
Data Analytics is a process of examining data sets to conclude about the information they contain, which can be used to develop AI applications and improve the efficiency of ground transportation systems. Related terms include business intelligence and data visualization.
Data Visualization is a technique used to communicate information and insights from data through visual representations, such as charts, graphs, and maps, which can be used to present data and insights in a clear and intuitive way in ground transportation. Related terms include data analytics and business intelligence.
Dedicated Short-Range Communication (DSRC) is a wireless communication technology that enables vehicles to communicate with each other and with infrastructure over short distances, which can be used to enable real-time communication between vehicles and infrastructure in ground transportation. Related terms include vehicle-to-everything (V2X) communication and cellular network.
Deep Learning is a type of machine learning that involves the use of artificial neural networks with multiple layers to learn complex patterns in data, which can be used to develop AI applications in ground transportation, such as image recognition and natural language processing. Related terms include machine learning and artificial neural networks.
Demand-Responsive Transportation is a type of transportation service that adjusts its route or schedule in response to changing demand or passenger requests, which can be used to improve the efficiency and effectiveness of ground transportation systems. Related terms include dynamic pricing and mobility-as-a-service (MaaS).
Device Management is a process of managing and maintaining devices, such as vehicles or infrastructure, to ensure they are functioning properly and efficiently, which can be used to improve the safety and reliability of ground transportation systems. Related terms include asset management and maintenance management.

Discrete Choice Models are a type of statistical model that is used to analyze and predict human behavior, such as travel choices or mode choice, which can be used to inform the development of AI applications in ground transportation. Related terms include logit models and probit models.
Distributed Computing is a model of computing that involves distributing tasks across multiple computers or devices to improve processing power and efficiency, which can be used to develop and deploy AI applications in ground transportation. Related terms include cloud computing and edge computing.
Dynamic Pricing is a pricing strategy that involves adjusting prices in real-time based on changing demand or supply, which can be used to manage demand and reduce congestion in ground transportation. Related terms include demand-responsive transportation and mobility-as-a-service (MaaS).
Edge Computing is a model of computing that involves processing data at the edge of the network, closer to the source of the data, to reduce latency and improve real-time processing, which can be used to develop and deploy AI applications in ground transportation. Related terms include cloud computing and fog computing.
Electric Vehicles (EVs) refer to vehicles that are powered by electricity from a battery or other electric source, which can reduce greenhouse gas emissions and improve air quality in ground transportation. Related terms include hybrid vehicles and alternative fuel vehicles.
Embedded Systems are computer systems that are integrated into other devices or machines to control or monitor their operation, which can be used to develop AI applications in ground transportation, such as autonomous vehicles and smart infrastructure. Related terms include microcontrollers and sensors.
Emulation is a technique used to mimic the behavior of a system or device, which can be used to test and simulate AI applications in ground transportation. Related terms include simulation and modeling.
Energy Efficiency refers to the use of technologies or strategies to reduce energy consumption and improve the energy efficiency of transportation systems, which can be used to reduce greenhouse gas emissions and improve air quality in ground transportation. Related terms include sustainable transportation and green transportation.
Environmental Impact Assessment is a process of evaluating the potential environmental impacts of a project or policy, which can be used to assess the environmental impacts of AI applications in ground transportation. Related terms include life cycle assessment and cost-benefit analysis.
Ethernet is a type of local area network (LAN) technology that enables devices to communicate with each other over a wired or wireless connection, which can be used to enable communication between vehicles and infrastructure in ground transportation. Related terms include Wi-Fi and Bluetooth.
Event-Driven Architecture is a software architecture that involves designing systems around events or notifications, which can be used to develop AI applications in ground transportation, such as real-time traffic monitoring and incident response. Related terms include service-oriented architecture and microservices architecture.
Expert Systems are computer programs that mimic the decision-making abilities of a human expert in a particular domain, which can be used to develop AI applications in ground transportation, such as route optimization and traffic management. Related terms include knowledge-based systems and decision support systems.
Fare Collection Systems are systems used to collect fares or payments from passengers, which can be used to manage revenue and improve the efficiency of ground transportation systems. Related terms include ticketing systems and payment processing.

Federated Learning is a machine learning approach that involves training models on decentralized data, which can be used to develop AI applications in ground transportation, such as predictive maintenance and traffic forecasting. Related terms include distributed learning and collaborative learning.
Field-Programmable Gate Arrays (FPGAs) are integrated circuits that can be programmed and reprogrammed to perform specific tasks, which can be used to develop AI applications in ground transportation, such as image recognition and signal processing. Related terms include graphics processing units (GPUs) and central processing units (CPUs).
Fleet Management refers to the process of managing and maintaining a fleet of vehicles, which can be used to improve the efficiency and effectiveness of ground transportation systems. Related terms include vehicle tracking and asset management.
Fog Computing is a model of computing that involves processing data at the edge of the network, closer to the source of the data, to reduce latency and improve real-time processing, which can be used to develop and deploy AI applications in ground transportation. Related terms include cloud computing and edge computing.
Frequency Division Multiple Access (FDMA) is a technique used to multiplex multiple signals onto a single communication channel, which can be used to enable communication between vehicles and infrastructure in ground transportation. Related terms include time division multiple access (TDMA) and code division multiple access (CDMA).
Game Theory is a branch of mathematics that studies strategic decision-making in situations where multiple parties are involved, which can be used to analyze and optimize the behavior of autonomous vehicles in ground transportation. Related terms include mechanism design and auction theory.
Geographic Information Systems (GIS) are computer systems that capture, store, and analyze geographically referenced data, which can be used to develop AI applications in ground transportation, such as route optimization and traffic management. Related terms include spatial analysis and mapping.
Global Navigation Satellite System (GNSS) is a network of satellites that provide location information and timing signals to receivers on the ground, which can be used to enable navigation and tracking in ground transportation. Related terms include GPS and GLONASS.
Global Positioning System (GPS) is a network of satellites that provide location information and timing signals to receivers on the ground, which can be used to enable navigation and tracking in ground transportation. Related terms include GNSS and GLONASS.
Green Transportation refers to the use of environmentally friendly modes of transportation, such as electric or hybrid vehicles, which can reduce greenhouse gas emissions and improve air quality in ground transportation. Related terms include sustainable transportation and alternative fuel vehicles.
Handover is a process of transferring control or communication from one system or device to another, which can be used to enable seamless communication between vehicles and infrastructure in ground transportation. Related terms include handoff and roaming.
Heterogeneous Networks are networks that consist of different types of devices or systems, which can be used to enable communication between vehicles and infrastructure in ground transportation. Related terms include homogeneous networks and wireless sensor networks.
Human-Centered Design is a design approach that involves designing systems or products around the needs and behaviors of humans, which can be used to develop AI applications in ground transportation, such as user interfaces and user experience. Related terms include user-centered design and participatory

design.
Human-Machine Interface (HMI) refers to the interface between humans and machines, which can be used to develop AI applications in ground transportation, such as user interfaces and user experience. Related terms include user interface and user experience.
Hybrid Vehicles refer to vehicles that use a combination of different power sources, such as electric and gasoline, which can reduce greenhouse gas emissions and improve air quality in ground transportation. Related terms include electric vehicles and alternative fuel vehicles.
Hyperspectral Imaging is a technique used to capture and analyze images across a wide range of electromagnetic spectrum, which can be used to develop AI applications in ground transportation, such as image recognition and object detection. Related terms include multispectral imaging and spectral imaging.
Incident Management refers to the process of managing and responding to incidents, such as accidents or disruptions, in ground transportation, which can be used to improve safety and reduce congestion. Related terms include emergency response and crisis management.
Inertial Measurement Unit (IMU) is a sensor that measures the acceleration, roll, and pitch of a vehicle or device, which can be used to develop AI applications in ground transportation, such as navigation and tracking. Related terms include accelerometer and gyroscope.
Infrastructure as a Service (IaaS) is a cloud computing model that provides virtualized computing resources over the internet, which can be used to develop and deploy AI applications in ground transportation. Related terms include platform as a service (PaaS) and software as a service (SaaS).
Intelligent Speed Adaptation (ISA) is a technology that adjusts the speed of a vehicle based on the road conditions and speed limits, which can improve safety and reduce congestion in ground transportation. Related terms include adaptive cruise control and lane departure warning.
Intelligent Transportation Systems (ITS) refer to the use of advanced technologies, such as AI and data analytics, to improve the efficiency and safety of transportation systems, which can be used to develop AI applications in ground transportation. Related terms include smart transportation and mobility-as-a-service (MaaS).
Internet of Things (IoT) refers to the network of physical devices, vehicles, and other items that are embedded with sensors, software, and connectivity, which can be used to develop AI applications in ground transportation, such as smart infrastructure and autonomous vehicles. Related terms include machine-to-machine (M2M) communication and wireless sensor networks.
K-Means Clustering is a technique used to group similar data points or objects into clusters, which can be used to identify patterns and trends in ground transportation data. Related terms include hierarchical clustering and density-based clustering.
Kalman Filter is a mathematical algorithm that uses a combination of prediction and measurement updates to estimate the state of a system, which can be used to develop AI applications in ground transportation, such as navigation and tracking. Related terms include particle filter and extended Kalman filter.
Kriging is a geostatistical method that uses spatial autocorrelation to estimate the value of a variable at an unobserved location, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include inverse distance weighting and spline interpolation.
Lane Departure Warning (LDW) is a technology that alerts the driver when the vehicle drifts out of its lane, which can improve safety and reduce congestion in ground transportation. Related terms include lane

keeping assist and adaptive cruise control.
Level of Service (LOS) is a metric used to evaluate the quality of service provided by a transportation system or facility, which can be used to evaluate the performance of ground transportation systems. Related terms include capacity and demand.
Linear Regression is a statistical technique used to model the relationship between a dependent variable and one or more independent variables, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include logistic regression and decision trees.
Location-Based Services (LBS) refer to the use of location information to provide services or information to users, which can be used to develop AI applications in ground transportation, such as navigation and tracking. Related terms include geolocation and spatial analysis.
Logistic Regression is a statistical technique used to model the relationship between a binary dependent variable and one or more independent variables, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include linear regression and decision trees.
Long Short-Term Memory (LSTM) is a type of recurrent neural network that is well-suited for modeling temporal relationships in data, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include gated recurrent units (GRUs) and convolutional neural networks (CNNs).
Machine Learning (ML) refers to the development of algorithms and statistical models that enable computers to perform tasks without being explicitly programmed, which can be used to develop AI applications in ground transportation, such as image recognition and natural language processing. Related terms include deep learning and artificial neural networks.
Machine-to-Machine (M2M) Communication refers to the exchange of information between devices or machines without human intervention, which can be used to enable communication between vehicles and infrastructure in ground transportation. Related terms include internet of things (IoT) and wireless sensor networks.
Maintenance Management refers to the process of managing and maintaining vehicles, equipment, and infrastructure to ensure they are functioning properly and efficiently, which can be used to improve the safety and reliability of ground transportation systems. Related terms include asset management and fleet management.
Map-Matching is a technique used to match the location of a vehicle or device to a digital map, which can be used to develop AI applications in ground transportation, such as navigation and tracking. Related terms include geolocation and spatial analysis.
Microsimulation is a modeling approach that simulates the behavior of individual agents, such as travelers or vehicles, to understand complex systems and phenomena in ground transportation, which can be used to inform the development of AI applications. Related terms include agent-based modeling and macrosimulation.
Mobility-as-a-Service (MaaS) refers to the integration of public, private, and shared transportation services into a single platform, which can be used to improve the efficiency and effectiveness of ground transportation systems. Related terms include transportation-as-a-service (TaaS) and shared mobility.
Model Predictive Control (MPC) is a control strategy that uses a model of the system to predict and

optimize its behavior, which can be used to develop AI applications in ground transportation, such as autonomous vehicles and smart infrastructure. Related terms include model-based control and optimal control.
Model-Based Systems Engineering (MBSE) is a systems engineering approach that involves using models to design, analyze, and optimize complex systems, which can be used to develop AI applications in ground transportation, such as autonomous vehicles and smart infrastructure. Related terms include model-driven engineering and systems modeling.
Multimodal Transportation refers to the use of multiple modes of transportation, such as walking, cycling, or driving, to complete a journey, which can be used to improve the efficiency and effectiveness of ground transportation systems. Related terms include intermodal transportation and transportation planning.
Multispectral Imaging is a technique used to capture and analyze images across multiple spectral bands, which can be used to develop AI applications in ground transportation, such as image recognition and object detection. Related terms include hyperspectral imaging and spectral imaging.
Natural Language Processing (NLP) is a field of study that focuses on enabling computers to understand and generate human language, which can be used to develop AI applications in ground transportation, such as chatbots and voice assistants. Related terms include machine learning and deep learning.
Near Field Communication (NFC) is a wireless communication technology that enables devices to communicate with each other over short distances, which can be used to enable communication between vehicles and infrastructure in ground transportation. Related terms include Bluetooth and Wi-Fi.
Network Architecture refers to the design and organization of a computer network, including the relationships between devices, protocols, and data formats, which can be used to develop AI applications in ground transportation, such as communication networks and data exchange. Related terms include network topology and network protocols.
Neural Networks are a type of machine learning model that is inspired by the structure and function of the human brain, which can be used to develop AI applications in ground transportation, such as image recognition and natural language processing. Related terms include deep learning and artificial neural networks.
Non-Parametric Methods are statistical techniques that do not require a specific distribution or model to be specified, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include parametric methods and semi-parametric methods.
Object Detection is a computer vision technique that involves locating and classifying objects within an image or video, which can be used to develop AI applications in ground transportation, such as image recognition and autonomous vehicles. Related terms include image recognition and machine learning.
On-Board Diagnostics (OBD) is a system that monitors and reports on the performance of a vehicle, which can be used to develop AI applications in ground transportation, such as predictive maintenance and autonomous vehicles. Related terms include vehicle health monitoring and condition-based maintenance.
On-Board Unit (OBU) is a device that is installed in a vehicle to enable communication with infrastructure and other vehicles, which can be used to develop AI applications in ground transportation, such as autonomous vehicles and smart infrastructure. Related terms include roadside unit (RSU) and vehicle-to-everything (V2X) communication.
Operational Research (OR) is a field of study that focuses on using advanced analytical methods to optimize and improve complex systems, which can be used to develop AI applications in ground transportation, such

as route optimization and traffic management. Related terms include management science and decision science.
Optimization refers to the process of finding the best solution to a problem or the best parameters for a system, which can be used to develop AI applications in ground transportation, such as route optimization and traffic management. Related terms include linear programming and dynamic programming.
Origin-Destination Matrix is a matrix that represents the number of trips between different origins and destinations, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include trip distribution and mode choice.
Parallel Computing is a model of computing that involves using multiple processors or cores to perform tasks simultaneously, which can be used to develop AI applications in ground transportation, such as image recognition and machine learning. Related terms include distributed computing and cloud computing.
Park-and-Ride refers to the practice of parking a vehicle at a designated location and transferring to another mode of transportation, such as public transportation or walking, which can be used to improve the efficiency and effectiveness of ground transportation systems. Related terms include kiss-and-ride and transportation hubs.
Participatory Sensing is a method of collecting data or solving problems by soliciting contributions from a large group of people, which can be used to collect data on transportation patterns and preferences in ground transportation. Related terms include crowdsourcing and human-centered design.
Path Planning is a technique used to find the optimal path between two or more locations, which can be used to develop AI applications in ground transportation, such as route optimization and autonomous vehicles. Related terms include route planning and navigation.
Pattern Recognition is a technique used to identify and classify patterns in data, which can be used to develop AI applications in ground transportation, such as image recognition and machine learning. Related terms include machine learning and deep learning.
Pavement Management refers to the process of managing and maintaining pavements to ensure they are safe and durable, which can be used to improve the safety and reliability of ground transportation systems. Related terms include asset management and maintenance management.
Payment Processing refers to the process of handling and processing payments, which can be used to manage revenue and improve the efficiency of ground transportation systems. Related terms include fare collection and ticketing.
Pedestrian Detection is a computer vision technique that involves locating and classifying pedestrians within an image or video, which can be used to develop AI applications in ground transportation, such as autonomous vehicles and smart infrastructure. Related terms include object detection and machine learning.
Personal Rapid Transit (PRT) refers to the use of small, automated vehicles to provide on-demand transportation, which can be used to improve the efficiency and effectiveness of ground transportation systems. Related terms include podcars and taxi services.
Platoon Formation is a technique used to group multiple vehicles together to improve safety and reduce congestion, which can be used to develop AI applications in ground transportation, such as autonomous vehicles and smart infrastructure. Related terms include vehicle-to-vehicle (V2V) communication and cooperative adaptive cruise control.
Positioning System refers to the use of technologies, such as GPS or RFID, to determine the location of a

vehicle or device, which can be used to develop AI applications in ground transportation, such as navigation and tracking. Related terms include geolocation and spatial analysis.
Precision refers to the degree of accuracy or exactness in a measurement or prediction, which can be used to evaluate the performance of AI applications in ground transportation. Related terms include accuracy and recall.
Predictive Analytics is a field of study that focuses on using data and statistical models to predict future events or behaviors, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include machine learning and data mining.
Predictive Maintenance refers to the use of advanced analytics and machine learning to predict and prevent maintenance needs, which can be used to improve the safety and reliability of ground transportation systems. Related terms include condition-based maintenance and autonomous maintenance.
Principal Component Analysis (PCA) is a statistical technique used to reduce the dimensionality of a dataset and identify patterns, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include factor analysis and independent component analysis.
Public Key Infrastructure (PKI) is a system that enables secure communication and authentication over a network, which can be used to develop AI applications in ground transportation, such as secure communication and data exchange. Related terms include encryption and digital certificates.
Quality of Service (QoS) refers to the level of service provided by a transportation system or facility, which can be used to evaluate the performance of ground transportation systems. Related terms include level of service (LOS) and customer satisfaction.
Queueing Theory is a branch of operations research that studies the behavior of queues and waiting lines, which can be used to develop AI applications in ground transportation, such as traffic management and route optimization. Related terms include stochastic processes and Markov chains.
Radio-Frequency Identification (RFID) is a technology that uses radio waves to communicate with and identify objects or devices, which can be used to develop AI applications in ground transportation, such as vehicle tracking and inventory management. Related terms include near-field communication (NFC) and Bluetooth.
Real-Time Data refers to the use of current and up-to-date data to inform decisions or actions, which can be used to develop AI applications in ground transportation, such as traffic management and route optimization. Related terms include real-time processing and streaming data.
Real-Time Processing refers to the ability of a system to process and respond to data in real-time, which can be used to develop AI applications in ground transportation, such as autonomous vehicles and smart infrastructure. Related terms include real-time data and streaming data.
Recurrent Neural Networks (RNNs) are a type of neural network that is well-suited for modeling temporal relationships in data, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include long short-term memory (LSTM) and gated recurrent units (GRUs).
Regression Analysis is a statistical technique used to model the relationship between a dependent variable and one or more independent variables, which can be used to develop AI applications in ground transportation, such as traffic forecasting and route optimization. Related terms include linear regression and logistic regression.

Reliability refers to the ability of a system or component to perform its intended function without failure, which can be used to evaluate the performance of AI applications in ground transportation. Related terms include availability and maintainability.
Remote Sensing refers to the use of sensors or other technologies to collect data about the environment or objects from a distance, which can be used to develop AI applications in ground transportation, such as traffic monitoring and infrastructure inspection. Related terms include satellite imagery and aerial photography.
Resource Allocation refers to the process of assigning resources, such as vehicles or personnel, to tasks or activities, which can be used to develop AI applications in ground transportation, such as route optimization and traffic management. Related terms include scheduling and dispatching.
Road Pricing refers to the use of fees or tolls to manage demand and reduce congestion on roads, which can be used to improve the efficiency and effectiveness of ground transportation systems. Related terms include congestion pricing and dynamic pricing.
Roadside Unit (RSU) is a device that is installed along the roadside to enable communication with vehicles and other infrastructure, which can be used to develop AI applications in ground transportation, such as autonomous vehicles and smart infrastructure. Related terms include on-board unit (OBU) and vehicle-to-everything (V2X) communication.
Route Optimization refers to the process of finding the most efficient route between two or more locations, which can be used to develop AI applications in ground transportation, such as navigation and logistics. Related terms include path planning and traffic management.
Route Planning refers to the process of determining the