

Week 1: Introduction & Industry Research

by Jimalyn Del Rosario

Internship Task: Exploring Data Science Applications Across Different Industries

Task Overview: As a data science intern, it's crucial to understand how data science can be applied across various industries. This knowledge will help you identify opportunities and develop versatile skills that can be adapted to multiple domains. This task will involve researching and summarizing the applications of data science in different industries.

Transportation Industry

Overview

The transportation industry is one of the largest industries in the modern world. It encompasses both private and public transportation services that aim to move people or goods by land, sea, air, and space. It is also an industry where technology and large amounts of data has been continuously leveraged to improve its operations through better logistics, efficiency, and real-time effectiveness. Through the years, data has been strongly integrated so that it's almost impossible for this industry to be successful without it.

Data Science Applications

Navigation

Data science helps generate real-time traffic predictions, suggest optimal routes, and reduce travel time using GPS data, weather conditions, and historical travel patterns. Algorithms power tools like Google Maps, Waze, and in-vehicle navigation systems.

Ridesharing

Companies like Movelt, Grab, or Uber use machine learning for dynamic pricing, estimated time of arrival or ETA predictions, ride demand forecasting during peak hours, and route optimization to avoid traffic and choosing faster routes. Data also helps match drivers with riders efficiently.

Intelligent Transportation

This refers to the different Intelligent systems or mechanisms that is integrated into transportation / traffic infrastructure like smart traffic lights, accident detection, and vehicle-to-infrastructure communication. These systems need data to make decisions.

Airline Operations

Airlines use data and predictive analytics for many aspects of its operations and a few examples are flight delays prediction; fuel optimization by analyzing flight data; optimized crew scheduling by using data on daily operations; and predictive maintenance through data collected from aircraft health monitoring sensors to spot issues and fix them proactively. Data is also used and analyzed to understand airport and flight experience of passengers to improve customer services, allowing them to make informed decisions.

Specific Use Cases

Traffic Flow Prediction for Smart Traffic Lights Using Machine Learning Algorithms

This study focuses on predicting traffic flow to improve how smart traffic lights operate. Using real-world traffic data from multiple intersections, machine learning and deep learning models were tested to forecast the number of vehicles passing through. The Multilayer Perceptron model performed best, accurately predicting traffic with high reliability and fast training. This helps traffic lights adjust in real time, reducing congestion, pollution, and travel stress during busy hours.

A Predictive Control for Autonomous Vehicles using Big Data Analysis

This project focuses on improving how autonomous vehicles steer and stay on course using big data. By analyzing large sets of driving signal data, the study creates decision trees with ML algorithms to define safe driving zones. These insights are then used to guide the vehicle's lateral control system within a Model Predictive Control (MPC) framework. Simulations showed that this approach leads to more accurate and reliable vehicle control, offering a smarter way to enhance autonomous driving performance.

Predictive Pricing Model for Shared Economy Ride Applications: Incorporating Latest Data and Factors

This study explores how machine learning can help ridesharing apps like Uber set smarter, more dynamic prices. By using real-time data and several influencing factors, the team developed a pricing algorithm that adjusts trip costs based on demand, location, and other conditions. The model also identifies areas where Uber is either well-supported or faces challenges. Among various machine learning methods tested, polynomial regression performed the best. This approach helps make rides more affordable for users while keeping services financially sustainable.

Predictive Analytics for Enhanced Passenger Satisfaction in the Airline Industry: Leveraging Machine Learning to Drive Strategic Decision-Making

This project uses machine learning to better understand and predict airline passenger satisfaction. By analyzing data from about 130,000 customer reviews and travel details, the study compares two ML models, Naive Bayes and k-NN, to find which works best. Naive Bayes gave the most accurate results and helped identify what matters most to travelers. The findings can help airlines improve their services and make smarter decisions to keep passengers happy and loyal.

Impact

Data science is making a big difference in how we travel every day. It helps make things faster and more efficient. For example, by finding better routes and reducing wait times. Transportation companies save money by knowing when vehicles need maintenance before they break down. It's also making travel safer by helping predict accidents and warning drivers ahead of time. On top of that, using smarter routes means less fuel is wasted, which is better for the environment. And for us as passengers, it means getting real-time updates, more reliable rides, and even personalized suggestions for how to get around. In short, data helps transportation become smarter, safer, and more convenient for everyone.

Skills and Tools

- Machine Learning & Deep Learning
- Data Engineering
- Statistical Analysis
- Geographic Information Systems (GIS)
- Predictive Modeling
- Real-time Data Processing
- Programming Languages: Python, R, SQL, Java
- Big Data Platforms: Apache Spark, Hadoop
- Visualization Tools: Tableau, Power BI, Plotly
- Cloud Services: AWS, Azure, Google Cloud
- Frameworks: TensorFlow, PyTorch, Scikit-learn
- GIS Tools: QGIS, ArcGIS

Entertainment Industry

Overview

The entertainment industry encompasses a wide range of sectors including film, television, music, gaming, live performances, streaming services, and social media content. As digital platforms have grown, this industry has also undergone a major transformation. Today, it is driven largely by data and advanced analytics. It is used for personalized content recommendations, forecasting whether a movie will become box office. Data science plays an influential role in how entertainment is created, distributed, and consumed today. Whether it's improving viewer engagement or optimizing marketing strategies, data has become a core tool behind success in this industry.

Data Science Applications

Music

Data science is used by music companies like Spotify and Apple Music for trend spotting, playlist optimization, identifying breakout artists, and predicting song virality. Platforms analyze user skip rates, listening patterns, and playlist behaviors to refine recommendations.

Gaming

Data science in gaming platforms like Valorant is used for player behavior analysis, in-game economy optimization, dynamic difficulty adjustment, fraud detection, and matchmaking. Game developers use real-time analytics to enhance user experience and retention.

Content Recommendation

Streaming platforms like Netflix, YouTube, and Spotify use data science to suggest content based on user preferences, viewing/listening history, and behavioral patterns. Recommendation systems help increase user engagement and retention.

Audience Analytics

Entertainment companies use data to understand audience demographics, sentiment, and behavior. This helps in tailoring content to specific markets, predicting viewership trends, and making creative decisions that resonate with audiences.

Social Media & Influencer Marketing

Machine learning helps identify trending content, optimize posting times, and track engagement. It's also used to select influencers for brand partnerships by analyzing audience overlap, authenticity, and campaign effectiveness.

Specific Use Cases

Netflix Bigdata Analytics - The Emergence of Data Driven Recommendation

This study highlights how Netflix uses big data to drive its personalized recommendation system and shape strategic decisions. By collecting vast amounts of user data such as viewing history, search queries, location, and time of access, Netflix trains algorithms to deliver tailored content, enhancing user satisfaction and retention.

Real-Time Music Recommendation System Integrating PySpark and Kafka for Enhanced User Experience

This study presents a real-time music recommendation engine powered by PySpark and Kafka. Using the Implicit Collaborative Filtering algorithm, the system processes large-scale user data, such as listening history and preferences, to generate personalized recommendations. Kafka enables real-time data streaming and processing, ensuring up-to-date, dynamic suggestions. Feature engineering and data transformation play key roles in enhancing the precision and responsiveness of the model.

Movie Industry Economics: How Data Analytics Can Help Predict Movies' Financial Success

This study develops a predictive model for estimating a film's box office performance and award potential using advanced data analytics. Using web scraping and text mining, data was processed through machine learning techniques such as CART, Random Forests, Conditional Forests, and Gradient Boosting. The model helps forecast financial outcomes before release, assisting studios and investors in identifying high-potential films early in production. The findings emphasize data's value in reducing investment risks and guiding strategic content and marketing decisions.

Interdisciplinary Data Analytics Transforming Influencer Marketing Strategies

This explores how interdisciplinary data analytics, combining machine learning, social network analysis, and sentiment analysis, is revolutionizing influencer marketing. By analyzing complex, diverse datasets, marketers can identify authentic influencers, understand audience behavior, and enhance campaign effectiveness. It emphasizes the strategic integration of data-driven insights with creative marketing. It showcases how advanced analytics enables more precise targeting, improved engagement, and optimized influencer selection in a saturated digital landscape.

Impact

Data science has heavily reshaped how entertainment is produced, marketed, and consumed. Viewers now enjoy specific and tailored experiences through smart content suggestions and also improved user experience. Producers of media entertainment can make data-driven decisions on which projects to pursue, which leads to better return of investment or ROI. Artists and creators can gain deeper insight into what resonates with their audiences. For businesses, this means reduced risk, improved targeting, and more efficient use of resources. Data has made the entertainment industry know more about their users and give them the best experience.

Skills and Tools

- Machine Learning & Deep Learning
- Natural Language Processing (NLP)
- Recommendation Systems
- Sentiment Analysis
- A/B Testing & Experimentation
- Real-time Data Processing
- Programming Languages: Python, R, SQL, JavaScript
- Big Data Platforms: Apache Spark, Hadoop
- Visualization Tools: Tableau, Power BI, Plotly, D3.js
- Cloud Services: AWS, Google Cloud, Azure
- Frameworks: TensorFlow, Keras, PyTorch, Scikit-learn
- Media Tools & APIs: YouTube API, Spotify API, Twitter API, IMDb datasets

Fashion Industry

Overview

The fashion industry includes everything from designing clothes to selling them in stores or online. It moves fast and changes often, based on what people like. In the modern world, online shopping and social media is widely prominent. Fashion companies now use data to make smarter decisions. Data science helps brands understand what customers want, what styles are trending, how to manage stock, and how to give better shopping experiences.

Data Science Applications

Predicting Trends

Fashion companies use data from social media, search engines, and fashion shows to guess which styles, colors, or items will be popular next season. This helps them design clothes that match what people want.

Managing Stock and Supply

Using past sales and shopping patterns, companies can predict how many clothes to make or send to each store. This prevents overproduction or running out of popular items.

Personalized Shopping

Online stores track what you click on or buy and use that data to suggest clothes you might like. This makes it easier for shoppers to find things they'll love.

Finding Clothes with Images

Some websites let you upload a picture of a dress or outfit you like, and they'll show you similar clothes. This uses image recognition powered by AI.

Specific Use Cases

Data Mining and Augmented Reality: An Application to the Fashion Industry

This study presents a system that uses data mining and augmented reality to improve quality control in fashion manufacturing. It analyzes large sets of quality and supplier data to find patterns in product defects and uses this information to suggest smarter sampling strategies and faster inspections. The goal is to help companies make data-driven decisions quickly and visually, improving both speed and accuracy, especially for new workers.

Style in the Age of Instagram Predicting Success within the Fashion Industry using Social Media

This study uses data from fashion databases and Instagram to train a machine learning model that predicts which new fashion models will succeed. It shows that social media data like followers and activity is more useful for forecasting success than traditional factors like agency contracts or looks.

Supplier Prediction in Fashion Industry Using Data Mining Technology

This study uses historical customer order data and machine learning models to predict the best suppliers in the fashion industry. By applying data mining and classification techniques, the system can match supplier capabilities with product needs. The goal is to build a data-driven decision support system that makes supplier selection more accurate, automated, and efficient.

Predictive Trend Analysis in Fashion: Leveraging Machine Learning for Forecasting Styles and Consumer Preferences

This paper uses machine learning to analyze large datasets like past fashion trends, sales, and social media to predict future consumer preferences. By combining data-driven insights with traditional forecasting, the study helps brands and designers make better decisions, manage inventory more effectively, and respond faster to changing trends.

Impact

Data science is transforming the fashion industry by making it faster, smarter, and more customer focused. It helps brands in many ways, like enabling them to design better products and predict trends. By using data to personalize the shopping experience and make production more efficient, fashion companies can operate better, make more sustainable choices, and stay ahead in a rapidly changing market.

Skills and Tools

- Machine Learning – teaches computers to learn from data
- Image Recognition – helps find similar styles from pictures
- Forecasting – predicts future trends or sales
- Recommender Systems – suggests clothes to customers
- Data Visualization – shows data in charts and graphs
- Tools and Tech: Python, R, SQL, Tableau, Power BI, TensorFlow, Scikit-learn, AWS, Spark

Government Industry

Overview

The government industry includes public services including administration, law enforcement, urban planning, healthcare, transportation, and citizen relations. In the accelerating digital transformation age, governments worldwide are turning to data science and analytics to enhance decision-making, transparency, and service delivery. With the vast amount of data collected from citizens and systems, data-driven governance is now becoming a critical approach for proactively addressing societal needs.

Data Science Applications

Public Policy and Planning

Governments use data to evaluate and forecast the impact of policies. Predictive models help simulate scenarios, enabling data-informed policymaking in areas like housing, education, and economic development.

Public Health Surveillance

During health crises, real-time analytics and machine learning are used for outbreak prediction, contact tracing, and resource allocation. Data-driven health dashboards inform the public and guide government response strategies.

Fraud Detection and Risk Assessment

Data analytics is used by tax agencies, social services, and procurement departments to detect fraud, misuse, or inefficiencies. Algorithms can flag anomalies and reduce financial risks in public programs.

Citizen Services and Engagement

Natural Language Processing (NLP) helps analyze citizen feedback and social media trends. Governments also use chatbots and sentiment analysis to improve communication, responsiveness, and trust with citizens.

Security and Law Enforcement

Predictive policing and crime mapping tools use historical crime data, weather, demographics, and geospatial data to prevent incidents and allocate law enforcement resources more effectively.

Specific Use Cases

E-Government with Big Data Enabled through Smartphone for Public Services

This study shows that data from smartphones is important for improving public services through e-government. Big data helps governments make better and faster decisions by analyzing large amounts of information. The study uses a survey from Brunei Darussalam to understand how people use their smartphones and how this behavior creates useful data. This data can help governments provide more personalized and accessible services. The study also points out some challenges, such as how to manage and use this data properly, and the need for better systems to support big data in public service.

Big Data-Driven Public Policy Decisions: Transformation Toward Smart Governance

This study explains how big data analytics (BDA) can improve decision-making in public policy. It highlights that BDA is not only useful for improving government operations, but also important for transforming how policies are made and carried out. The study shows that big data can support every stage of the policy process like planning, design, service delivery, and evaluation. The study points out that big data is already used in areas like health, education, and taxation, and it can help shift traditional systems toward smarter, more digital governance. Even though there are challenges, such as managing technology and data systems, BDA can lead to more accurate and timely public policies.

A Framework for Fraud Detection in Government Supported National Healthcare Programs

This study focuses on the need to detect fraud in healthcare insurance claims, especially in developing countries where governments pay for medical services for low-income members of the society. It proposes a data-based framework that tracks transactions over time to find false or invalid claims. The system uses patterns in age, gender, service provider behavior, and patient behavior to spot unusual activities. By analyzing hospital transaction data, the study shows how this approach can help find different types of fraud. Detecting and monitoring fraud through data is important for improving the quality of healthcare services.

Leveraging AI, Machine Learning, And Big Data For Enhancing Tax Compliance, Fraud Detection, And Predictive Analytics In Government Financial Management

This review highlights how governments are increasingly investing in digital technologies like AI, machine learning, big data analytics, and blockchain to improve financial management. These tools help automate tax collection, detect fraud in public procurement, and guide policy through large-scale data analysis. Examples include analyzing VAT transactions to find fraud patterns and using natural language processing to review audit reports. The study stresses that data-driven tools can greatly improve the efficiency and accuracy of government financial operations.

Impact

Data science is transforming even the industry of governance by allowing for smarter, more proactive decision-making. Governments are now better equipped to predict trends, prevent crises, and allocate resources efficiently. From enhancing public safety and healthcare to streamlining services and fostering transparency, data empowers governments to be more responsive, and effective.

Skills and Tools

- Predictive Modeling & Machine Learning
- Big Data Analytics
- Real-Time Monitoring Systems
- Natural Language Processing (NLP)
- Geospatial Analysis & GIS
- Data Visualization & Dashboards
- Programming Languages: Python, R, SQL
- Big Data Platforms: Apache Spark, Hadoop
- Cloud Services: AWS, Azure Government, Google Cloud
- Visualization Tools: Power BI, Tableau, D3.js
- Frameworks: Scikit-learn, TensorFlow, PyTorch
- GIS Tools: ArcGIS, QGIS

Agriculture Industry

Overview

The agriculture industry grows the food we eat and the raw materials we use every day. It includes farming, livestock, fisheries, and more. Today, agriculture is not just about soil and seeds it's also about data. Farmers and agricultural companies are now using data science to grow more food with fewer resources, protect the environment, and make farming smarter and more efficient.

Data Science Applications

Crop Prediction

By using data on weather, soil conditions, and past harvests, farmers can predict how much crop they'll produce. This helps them plan better and reduce waste.

Soil and Weather Monitoring

Sensors in the soil collect data on moisture, temperature, and nutrients. Combined with weather data, this helps farmers decide the best time to plant, water, or harvest.

Pest and Disease Detection

AI models can spot signs of plant diseases or pest infestations early by analyzing images from drones or smartphones. This allows farmers to act quickly and protect their crops.

Livestock Health Monitoring

Wearable sensors for animals track their health, movement, and behavior. If something's wrong, the system alerts the farmer so they can take action early.

Market Price Forecasting

Data analysis helps predict the future prices of crops or livestock so that farmers can sell their products at the best time for the most profit

Specific Use Cases

Smart Weather Data Management Based on Artificial Intelligence and Big Data Analytics for Precision Agriculture

This study presents a smart weather data management system that uses AI, machine learning, and big data analytics to support precision agriculture. Weather data is collected from multiple real-time sources, cleaned using deep learning techniques, and stored in a NoSQL database. The system enables weather forecasting, data visualization, and irrigation planning through accurate evapotranspiration estimates using models like XGBoost. Tested on data from 2013–2020 in Morocco, the system shows high accuracy and supports smarter farming decisions. This data-driven approach helps farmers manage crops more efficiently and sustainably.

Data mining and wireless sensor network for agriculture pest/disease predictions

This study uses data mining and wireless sensor networks to understand how weather conditions affect pest and disease outbreaks in crops, focusing on groundnut pests and diseases. By collecting crop-weather data and field surveillance information, the study identifies patterns and relationships using data mining techniques and mathematical models. The results, based on multi-season data, show that data-driven analysis can support real-time or near real-time predictions. This helps farmers make timely decisions for pest and disease management, improving precision agriculture practices.

LiveCare: An IoT-Based Healthcare Framework for Livestock in Smart Agriculture

This study presents LiveCare, an IoT-based system designed to monitor the health of cows in large farms. It collects sensor data to track daily behavioral changes and uses a data-driven algorithm called Cow Disease Prediction (CDP) to detect possible illnesses. CDP is an unsupervised machine learning model that analyzes patterns in behavior to predict multiple diseases. The study also lists common diseases, their symptoms, and the sensors used for detection. By comparing CDP with other machine learning models, the study shows that automated, data-based monitoring can improve livestock health management in smart agriculture.

Time series forecasting of price of the agricultural products using data science

This study uses data science techniques to forecast agricultural prices, focusing on potato prices. It tests several models from basic ones like exponential smoothing to advanced methods like SARIMA and neural networks. By analyzing historical price data, the study finds that SARIMA and ETS models give the most accurate results, especially when seasonality is considered. The research shows that combining models can improve prediction reliability. This data-driven forecasting helps farmers, suppliers, and policymakers make better decisions, reduce losses, and manage price stability in agriculture.

WB-CPI: Weather Based Crop Prediction in India Using Big Data Analytics

This study uses big data analytics to predict suitable crops based on weather and soil conditions. It collects and analyzes data such as temperature, rainfall, soil type, and humidity from regions like Ahmednagar and the Andaman and Nicobar Islands. The data is processed using Python and MapReduce, followed by k-means clustering for pattern analysis. A crop recommendation system is built with a user interface in Flask to suggest crops based on regional conditions. This data-driven approach helps farmers make informed decisions to improve crop yield and can be scaled to other regions.

Impact

Data science is helping agriculture become more productive, sustainable, and efficient. It reduces guesswork for farmers, helps grow more food with fewer chemicals, protects the environment, and improves food quality and safety. With better predictions and smarter tools, even small farms can benefit from big data.

Important Skills and Tools

- Machine Learning & AI
- Geographic Information Systems (GIS)
- Sensor Data Processing (IoT)
- Image Recognition
- Predictive Analytics
- Programming: Python, R, SQL
- Tools & Platforms:
 - Drones
 - Remote Sensing Tools (NDVI, satellite data)
 - Big Data Tools: Apache Spark, Hadoop
 - Cloud Platforms: AWS, Google Cloud
 - Visualization: Tableau, Power BI

References

- Anshari, Muhammad, and Syamimi Ariff Lim. "E-Government With Big Data Enabled through Smartphone for Public Services: Possibilities and Challenges." *International Journal of Public Administration*, vol. 40, no. 13, 5 Dec. 2016, pp. 1143–1158, <https://doi.org/10.1080/01900692.2016.1242619>.
- Chatterjee, Pinaki S., et al. "LiveCare: An IoT-Based Healthcare Framework for Livestock in Smart Agriculture." *IEEE Transactions on Consumer Electronics*, vol. 67, no. 4, Nov. 2021, pp. 257–265, <https://doi.org/10.1109/tce.2021.3128236>.
- Fani, Virginia, et al. "Data Mining and Augmented Reality: An Application to the Fashion Industry." *Applied Sciences*, vol. 13, no. 4, 10 Feb. 2023, p. 2317, <https://doi.org/10.3390/app13042317>.
- Fényes, Dániel, et al. "A Predictive Control for Autonomous Vehicles Using Big Data Analysis." *IFAC-PapersOnLine*, vol. 52, no. 5, 1 Jan. 2019, pp. 191–196, www.sciencedirect.com/science/article/pii/S2405896319306500, <https://doi.org/10.1016/j.ifacol.2019.09.031>.
- Gupta, Rishi, et al. "WB-CPI: Weather Based Crop Prediction in India Using Big Data Analytics." *IEEE Access*, vol. 9, 2021, pp. 137869–137885, <https://doi.org/10.1109/access.2021.3117247>.
- Hachimi, Chouaib El, et al. "Smart Weather Data Management Based on Artificial Intelligence and Big Data Analytics for Precision Agriculture." *Agriculture*, vol. 13, no. 1, 29 Dec. 2022, p. 95, <https://doi.org/10.3390/agriculture13010095>.
- Harale, Nitin, et al. "Supplier Prediction in Fashion Industry Using Data Mining Technology." *IEEE Xplore*, 1 Sept. 2019, ieeexplore.ieee.org/abstract/document/8948109/. Accessed 14 June 2022.
- Hossin, Md Altaf, et al. "Big Data-Driven Public Policy Decisions: Transformation toward Smart Governance." *SAGE Open*, vol. 13, no. 4, 1 Oct. 2023, <https://doi.org/10.1177/21582440231215123>.
- Irum Matloob, and Shoab A Khan. *A Framework for Fraud Detection in Government Supported National Healthcare Programs*. 1 June 2019, <https://doi.org/10.1109/ecai46879.2019.9042126>. Accessed 21 July 2023.
- Ismail, Walaa Saber, et al. "Predictive Analytics for Enhanced Passenger Satisfaction in the Airline Industry: Leveraging Machine Learning to Drive Strategic Decision-Making." *2018 4th International Conference on Optimization and Applications (ICOA)*, 17 Oct. 2024, pp. 1–6, ieeexplore.ieee.org/document/10753807, <https://doi.org/10.1109/icoa62581.2024.10753807>.
- Lavanya, K., et al. "Real-Time Music Recommendation System Integrating PySpark and Kafka for Enhanced User Experience." *Advances in Systems Analysis, Software Engineering, and High Performance Computing*, 27 Sept. 2024, pp. 175–190, www.igi-global.com/chapter/real-time-music-recommendation-system-integrating-pyspark-and-kafka-for-enhanced-user-experience/362047, <https://doi.org/10.4018/979-8-3693-5563-3.ch008>. Accessed 8 Apr. 2025.
- Maddodi, Srivatsa, and Krishna Prasad. "Google Scholar Citation: IJCSBE International Journal of Case Studies in Business." *IT and Education (IJCSBE) a Refereed International Journal of Srinivas University*, vol. ISSN, no. 2, 2019, pp. 2581–6942, srinivaspublication.com/wp-content/uploads/2019/10/4.netflix_FullPaper.pdf, <https://doi.org/10.5281/zenodo.3510316>.
- Murschetz, Paul Clemens, et al. "Movie Industry Economics: How Data Analytics Can Help Predict Movies' Financial Success." *Nordic Journal of Media Management*, vol. 1, no. 3, 1 Sept. 2020, pp. 339–359, journals.aau.dk/index.php/NJMM/article/view/5871, <https://doi.org/10.5278/njmm.2597-0445.5871>.
- Navarro-Espinoza, Alfonso, et al. "Traffic Flow Prediction for Smart Traffic Lights Using Machine Learning Algorithms." *Technologies*, vol. 10, no. 1, 10 Jan. 2022, p. 5, <https://doi.org/10.3390/technologies10010005>.
- Park, Jaehyuk, et al. "Style in the Age of Instagram: Predicting Success within the Fashion Industry Using Social Media." *Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing - CSCW '16*, 2016, <https://doi.org/10.1145/2818048.2820065>.
- Pawan Whig, et al. *Interdisciplinary Data Analytics Transforming Influencer Marketing Strategies*. 1 Jan. 2024, pp. 103–124, https://doi.org/10.1007/978-3-031-65727-6_7.
- Shahi, Harshit, et al. "Predictive Pricing Model for Shared Economy Ride Applications: Incorporating Latest Data and Factors." *Communications in Computer and Information Science*, vol. 2, no. 2, 1 Jan. 2023, pp. 24–37, https://doi.org/10.1007/978-3-031-43940-7_3.

- Tripathy, A K, et al. *Data Mining and Wireless Sensor Network for Agriculture Pest/Disease Predictions*. 1 Dec. 2011, <https://doi.org/10.1109/wict.2011.6141424>. Accessed 8 Aug. 2024.
- “Utilizing Data in the Transportation Industry.” *Career Advising & Professional Development | MIT*, 25 June 2025, capd.mit.edu/resources/utilizing-data-in-the-transportation-industry/. Accessed 15 July 2025.
- Vamsee Pamisetty, et al. “Leveraging AI, Machine Learning, and Big Data for Enhancing Tax Compliance, Fraud Detection, and Predictive Analytics in Government Financial Management.” *SSRN Electronic Journal*, 1 Jan. 2025, <https://doi.org/10.2139/ssrn.5210975>. Accessed 2 June 2025.
- Varshney, Reema, et al. *Predictive Trend Analysis in Fashion: Leveraging Machine Learning for Forecasting Styles and Consumer Preferences*. 16 Jan. 2025, pp. 939–944, <https://doi.org/10.1109/ic3ecsbhi63591.2025.10991057>. Accessed 22 June 2025.
- Yuan, Haitao, and Guoliang Li. “A Survey of Traffic Prediction: From Spatio-Temporal Data to Intelligent Transportation.” *Data Science and Engineering*, vol. 6, no. 1, 23 Jan. 2021, pp. 63–85, <https://doi.org/10.1007/s41019-020-00151-z>. Accessed 30 July 2021.