
Professional Certificate in Environmental Journalism

Data Journalism for Environmental Reporting

****Algorithm****

In the context of data journalism, an algorithm is a set of rules or instructions used to process and analyze data. These rules are often written in a programming language and can be used to automate tasks such as data cleaning, filtering, and analysis. Algorithms can also be used to identify patterns and trends in large datasets, making them a valuable tool for environmental reporters looking to uncover stories in complex data.

****Big Data****

Big data refers to the large and complex sets of data that are becoming increasingly common in today's digital world. These datasets can be too large and complex to be analyzed using traditional data processing tools, and require specialized software and techniques to handle. Big data can come from a variety of sources, including social media, sensors, and other connected devices. For environmental reporters, big data can provide insights into issues such as climate change, air and water pollution, and natural resource management.

****Data Cleaning****

Data cleaning, also known as data cleansing, is the process of identifying and correcting errors, inconsistencies, and other issues in a dataset. This can include tasks such as removing duplicates, filling in missing values, and standardizing formats. Data cleaning is an important step in the data journalism process, as it ensures that the data is accurate and reliable before analysis and visualization.

****Data Journalism****

Data journalism is a form of journalism that uses data and statistical analysis to tell stories. It involves collecting, cleaning, and analyzing data, and then presenting the results in a clear and engaging way. Data journalism can be used to uncover new stories, provide context to existing ones, and hold powerful institutions accountable. In environmental reporting, data journalism can be used to shed light on issues such as climate change, pollution, and natural resource management.

****Data Visualization****

Data visualization is the process of representing data in a visual format, such as charts, graphs, and maps. Data visualization can be used to make complex data easier to understand, and to help readers see patterns and trends that might not be immediately apparent in raw data. Data visualization is an important tool for environmental reporters, as it can help them communicate the findings of their data analysis in a clear and engaging way.

****Environmental Data****

Environmental data refers to any data related to the natural world and the impact of human activities on it. This can include data on air and water quality, climate change, natural resource management, and biodiversity. Environmental data can come from a variety of sources, including government agencies, non-profit organizations, and research institutions. For environmental reporters, access to accurate and reliable environmental data is essential for telling stories about the natural world and the challenges it faces.

****Geographic Information System (GIS)****

A Geographic Information System (GIS) is a system for capturing, analyzing, and visualizing spatial data. GIS can be used to create maps, analyze trends, and make predictions about future conditions. GIS is a valuable tool for environmental reporters, as it can help them visualize and analyze data related to issues such as climate change, air and water pollution, and natural resource management.

****Open Data****

Open data is data that is made freely available to the public for use and reuse. Open data can come from a variety of sources, including government agencies, research institutions, and non-profit organizations. Open data is an important resource for environmental reporters, as it provides access to a wealth of information that can be used to tell stories about the natural world and the challenges it faces.

****R programming language****

R is a programming language and software environment for statistical computing and graphics. It is widely used in data science and data journalism for data analysis, visualization, and machine learning. R has a large and active community of users, and there are many packages and libraries available for a wide variety of data analysis tasks. For environmental reporters, R can be a valuable tool for analyzing and visualizing environmental data.

****Structured Data****

Structured data is data that is organized in a specific format, such as a table or a database. Structured data is typically easier to analyze and search than unstructured data, such as text documents or images. Structured data can come from a variety of sources, including government agencies, research institutions, and commercial databases. For environmental reporters, structured data can provide valuable insights into issues such as climate change, air and water pollution, and natural resource management.

****Unstructured Data****

Unstructured data is data that does not have a specific format, such as text documents, images, and videos. Unstructured data can be more difficult to analyze and search than structured data, but it can also contain valuable information that is not available in structured formats. Unstructured data can come from a variety of sources, including social media, sensors, and other connected devices. For environmental reporters, unstructured data can provide insights into issues such as public opinion, behavior, and natural phenomena.

****Data Mining****

Data mining is the process of automatically discovering patterns and trends in large datasets. Data mining techniques include machine learning, statistical analysis, and data visualization. Data mining can be used to uncover new stories, provide context to existing ones, and identify trends and patterns that might not be immediately apparent in raw data. Data mining is a valuable tool for environmental reporters, as it can help them uncover hidden trends and patterns in environmental data.

****Data-Driven Journalism****

Data-driven journalism is a form of journalism that uses data and statistical analysis to tell stories. Data-driven journalism can be used to uncover new stories, provide context to existing ones, and hold powerful institutions accountable. In environmental reporting, data-driven journalism can be used to shed light on issues such as climate change, pollution, and natural resource management.

****Environmental Informatics****

Environmental informatics is the application of information technology and data science to environmental issues. It involves the use of computers, sensors, and other technologies to collect, analyze, and visualize environmental data. Environmental informatics is a multidisciplinary field that draws on concepts from computer science, statistics, and environmental science. For environmental reporters, environmental informatics can provide valuable tools and techniques for analyzing and visualizing environmental data.

****Machine Learning****

Machine learning is a type of artificial intelligence that allows computers to learn and improve their performance on a task without being explicitly programmed. Machine learning algorithms can be used to analyze large datasets and make predictions about future conditions. Machine learning is a valuable tool for environmental reporters, as it can help them uncover hidden trends and patterns in environmental data.

****Statistical Analysis****

Statistical analysis is the process of using mathematical and statistical methods to analyze data. Statistical analysis can be used to identify trends and patterns, make predictions, and test hypotheses. Statistical analysis is a valuable tool for environmental reporters, as it can help them uncover hidden trends and patterns in environmental data.

****Data Journalism Ethics****

Data journalism ethics refers to the principles and guidelines that data journalists should follow when collecting, analyzing, and presenting data. These principles include transparency, accuracy, and fairness. Data journalists should be transparent about their methods, sources, and assumptions, and should strive for accuracy and fairness in their reporting. They should also be mindful of the potential for bias and misuse of data, and should take steps to minimize these risks.

****Data Literacy****

Data literacy is the ability to read, understand, and communicate data. It involves skills such as data analysis, data visualization, and data storytelling. Data literacy is an important skill for environmental reporters, as it allows them to make sense of complex data and communicate their findings in a clear and engaging way.

****Data Sources****

Data sources are the places where data is collected and stored. Data sources can include government agencies, research institutions, non-profit organizations, and commercial databases. For environmental reporters, it is important to use reliable and accurate data sources, and to be transparent about the sources of their data.

****Data Security****

Data security refers to the measures taken to protect data from unauthorized access, use, disclosure, disruption, modification, or destruction. Data security is an important concern for environmental reporters, as they may handle sensitive or confidential data. Data security measures can include encryption, access controls, and backup and recovery procedures.

****Data Storytelling****

Data storytelling is the process of using data and narrative to tell a story. It involves combining data analysis, data visualization, and storytelling techniques to create a compelling and informative narrative. Data storytelling is an important skill for environmental reporters, as it allows them to communicate the findings of their data analysis in a clear and engaging way.

****Data Visualization Tools****

Data visualization tools are software programs or web applications that are used to create visual representations of data. These tools can include chart builders, map builders, and data dashboards.