Postgraduate Certificate in AI Strategies for NGOs

Ai For Social Impact

Acquisition refers to the process of obtaining or collecting data from various sources, which is a crucial step in machine learning and artificial intelligence for social impact. Related terms include data collection, data mining, and data processing. The goal of acquisition is to gather relevant and high-quality data that can be used to train and test AI models. In the context of NGOs, acquisition may involve collecting data from various sources such as social media, surveys, and sensors.

Actionable insights refer to the process of extracting meaningful and useful information from data that can inform decision-making and drive social impact. Related terms include data analysis, data visualization, and predictive analytics. Actionable insights are critical in helping NGOs to identify areas of improvement, optimize their operations, and make data-driven decisions. For example, an NGO working to reduce poverty may use data analysis to identify the most effective interventions and allocate resources accordingly.

Adversarial attack refers to a type of cyber attack that involves manipulating machine learning models to produce incorrect or misleading results. Related terms include data poisoning, model inversion, and replay attack. Adversarial attacks can have significant consequences for NGOs that rely on AI systems to make decisions or provide services. For instance, an adversarial attack on a system used to detect and prevent child exploitation could have devastating consequences.

AI for social good refers to the use of artificial intelligence to address social and environmental challenges. Related terms include AI for social impact, AI for humanity, and responsible AI. AI for social good involves using AI technologies such as machine learning and natural language processing to drive positive change and improve the lives of individuals and communities. For example, an NGO may use AI-powered chatbots to provide mental health support to vulnerable populations.

Algorithmic bias refers to the phenomenon where machine learning models perpetuate and amplify existing social biases and inequalities. Related terms include data bias, model bias, and fairness. Algorithmic bias can have significant consequences for NGOs that rely on AI systems to make decisions or provide services. For instance, an AI system used to predict creditworthiness may discriminate against certain groups of people based on their race or gender.

Anomaly detection refers to the process of identifying unusual or abnormal patterns in data. Related terms include outlier detection, novelty detection, and change detection. Anomaly detection is critical in helping NGOs to identify and respond to unexpected events or trends. For example, an NGO working to prevent human trafficking may use anomaly detection to identify unusual patterns of behavior that may indicate trafficking activity.

Artificial general intelligence refers to a type of artificial intelligence that is capable of performing any intellectual task that a human can. Related terms include narrow AI, weak AI, and strong AI. Artificial general intelligence has the potential to drive significant positive change, but it also raises important ethical and

societal concerns. For instance, the development of artificial general intelligence could lead to significant job displacement and exacerbate existing social inequalities.

Augmented reality refers to a type of virtual reality that involves overlaying digital information onto the physical world. Related terms include virtual reality, mixed reality, and extended reality. Augmented reality has the potential to drive significant positive change in areas such as education and healthcare. For example, an NGO may use augmented reality to provide interactive and immersive training programs for health workers.

Big data refers to the large and complex datasets that are generated by digital systems and devices. Related terms include data analytics, data science, and data engineering. Big data has the potential to drive significant positive change, but it also raises important ethical and societal concerns. For instance, the collection and analysis of big data can raise concerns about privacy and surveillance.

Chatbot refers to a type of software program that is designed to simulate conversation with human users. Related terms include virtual assistant, voice assistant, and conversational AI. Chatbots have the potential to drive significant positive change in areas such as customer service and technical support. For example, an NGO may use chatbots to provide mental health support to vulnerable populations.

Cloud computing refers to the practice of using remote cloud-based infrastructure to store, process, and manage data. Related terms include cloud storage, cloud security, and cloud migration. Cloud computing has the potential to drive significant positive change, but it also raises important ethical and societal concerns. For instance, the use of cloud computing can raise concerns about data sovereignty and cybersecurity.

Computer vision refers to the field of study that focuses on enabling computers to interpret and understand visual data from the world. Related terms include image recognition, object detection, and facial recognition. Computer vision has the potential to drive significant positive change in areas such as security and surveillance. For example, an NGO may use computer vision to detect and prevent child exploitation.

Data analytics refers to the process of examining data sets to conclude about the information they contain. Related terms include data mining, data visualization, and predictive analytics. Data analytics is critical in helping NGOs to make data-driven decisions and drive positive change. For instance, an NGO working to reduce poverty may use data analytics to identify the most effective interventions and allocate resources accordingly.

Data engineering refers to the practice of designing, building, and maintaining large-scale data systems. Related terms include data architecture, data governance, and data quality. Data engineering is critical in helping NGOs to manage and analyze large datasets. For example, an NGO may use data engineering to build a data warehouse that can store and process large amounts of data.

Data mining refers to the process of automatically discovering patterns and relationships in large datasets. Related terms include data analytics, data visualization, and predictive analytics. Data mining is critical in helping NGOs to identify trends and patterns that can inform decision-making and drive positive change. For instance, an NGO working to prevent disease outbreaks may use data mining to identify areas of high

risk and allocate resources accordingly.

Data science refers to the field of study that focuses on extracting insights and knowledge from data. Related terms include data analytics, machine learning, and statistical modeling. Data science is critical in helping NGOs to make data-driven decisions and drive positive change. For example, an NGO working to reduce climate change may use data science to identify the most effective interventions and allocate resources accordingly.

Data visualization refers to the process of communicating information and insights from data using visual representations. Related terms include data analytics, data mining, and predictive analytics. Data visualization is critical in helping NGOs to communicate complex data insights to stakeholders and drive positive change. For instance, an NGO working to reduce poverty may use data visualization to communicate the impact of their programs to donors and stakeholders.

Digital divide refers to the gap between individuals and communities that have access to modern information and communication technologies and those who do not. Related terms include digital inclusion, digital literacy, and digital equity. The digital divide is a significant challenge for NGOs that seek to use digital technologies to drive positive change. For example, an NGO working to provide education to disadvantaged communities may need to address the digital divide in order to reach their target audience.

Digital rights refer to the human rights that are related to the use of digital technologies. Related terms include online freedom, digital freedom, and internet freedom. Digital rights are critical in ensuring that individuals and communities are able to use digital technologies safely and securely. For instance, an NGO working to promote human rights may advocate for digital rights such as the right to online privacy and the right to freedom of expression.

Digital transformation refers to the process of using digital technologies to transform business processes and models. Related terms include digital innovation, digital disruption, and digital revolution. Digital transformation is critical in helping NGOs to stay relevant and effective in a rapidly changing world. For example, an NGO working to provide healthcare may use digital transformation to develop new telemedicine services that can reach more people.

Edge computing refers to the practice of processing data at the edge of a network, closer to the source of the data. Related terms include cloud computing, fog computing, and distributed computing. Edge computing has the potential to drive significant positive change in areas such as IoT and real-time analytics. For instance, an NGO working to monitor and respond to natural disasters may use edge computing to process data from sensors and cameras in real-time.

Ethics refers to the branch of philosophy that deals with moral principles and values. Related terms include moral philosophy, value theory, and normative ethics. Ethics is critical in ensuring that NGOs use digital technologies in a responsible and ethical manner. For example, an NGO working to develop AI systems may need to consider ethical issues such as bias and fairness.

Extended reality refers to a type of virtual reality that involves overlaying digital information onto the physical world. Related terms include augmented reality, virtual reality, and mixed reality. Extended reality

has the potential to drive significant positive change in areas such as education and healthcare. For instance, an NGO may use extended reality to provide interactive and immersive training programs for health workers.

Facial recognition refers to the use of computer vision to identify and verify individuals based on their facial features. Related terms include biometric authentication, face detection, and face verification. Facial recognition has the potential to drive significant positive change in areas such as security and surveillance. For example, an NGO working to prevent child exploitation may use facial recognition to identify and track perpetrators.

Human-centered design refers to a design approach that focuses on the needs and wants of human users. Related terms include user-centered design, design thinking, and empathy-based design. Human-centered design is critical in ensuring that NGOs develop digital solutions that meet the needs of their target audience. For instance, an NGO working to provide education to disadvantaged communities may use human-centered design to develop interactive and engaging learning platforms.

Humanitarian response refers to the provision of aid and assistance to individuals and communities affected by crises and disasters. Related terms include disaster response, crisis management, and emergency response. Humanitarian response is critical in ensuring that NGOs are able to respond quickly and effectively to crises and disasters. For example, an NGO working to respond to natural disasters may use digital technologies such as social media and mobile payments to coordinate relief efforts.

Inclusive design refers to a design approach that focuses on creating products and services that are accessible and usable by everyone. Related terms include accessible design, universal design, and design for all. Inclusive design is critical in ensuring that NGOs develop digital solutions that are accessible and usable by diverse populations. For instance, an NGO working to provide education to disadvantaged communities may use inclusive design to develop learning platforms that are accessible to people with disabilities.

Information and communication technologies refer to the digital technologies that are used to store, process, and communicate information. Related terms include ICT, IT, and digital technologies. Information and communication technologies have the potential to drive significant positive change in areas such as education and healthcare. For example, an NGO working to provide healthcare may use information and communication technologies such as telemedicine to reach more people.

Internet of things refers to the network of physical devices that are embedded with sensors and software to connect and exchange data with other devices and systems. Related terms include IoT, smart devices, and connected devices. The internet of things has the potential to drive significant positive change in areas such as smart cities and industrial automation. For instance, an NGO working to monitor and respond to natural disasters may use the internet of things to collect data from sensors and cameras in real-time.

Machine learning refers to a type of artificial intelligence that involves training models on data to make predictions or decisions. Related terms include deep learning, neural networks, and natural language processing. Machine learning has the potential to drive significant positive change in areas such as healthcare and education. For example, an NGO working to diagnose and treat diseases may use machine

learning to develop predictive models that can identify high-risk patients.

Natural language processing refers to a type of artificial intelligence that involves enabling computers to understand and generate human language. Related terms include text analytics, sentiment analysis, and language translation. Natural language processing has the potential to drive significant positive change in areas such as customer service and technical support. For instance, an NGO working to provide mental health support may use natural language processing to develop chatbots that can understand and respond to user queries.

Neural networks refer to a type of machine learning model that is inspired by the structure and function of the human brain. Related terms include deep learning, convolutional neural networks, and recurrent neural networks. Neural networks have the potential to drive significant positive change in areas such as image recognition and speech recognition. For example, an NGO working to diagnose and treat diseases may use neural networks to develop predictive models that can identify high-risk patients.

Online learning refers to the use of digital technologies to provide education and training programs. Related terms include e-learning, distance learning, and online courses. Online learning has the potential to drive significant positive change in areas such as education and skill development. For instance, an NGO working to provide education to disadvantaged communities may use online learning to develop interactive and engaging learning platforms.

Open data refers to the practice of making data available to anyone, free of charge and without restrictions. Related terms include open access, open source, and data sharing. Open data has the potential to drive significant positive change in areas such as transparency and accountability. For example, an NGO working to promote government transparency may use open data to provide citizens with access to government data and information.

Predictive analytics refers to the use of statistical models and machine learning algorithms to forecast future events or behaviors. Related terms include predictive modeling, forecasting, and data mining. Predictive analytics has the potential to drive significant positive change in areas such as healthcare and education. For instance, an NGO working to diagnose and treat diseases may use predictive analytics to develop predictive models that can identify high-risk patients.

Responsible AI refers to the practice of developing and using artificial intelligence in a responsible and ethical manner. Related terms include ethical AI, fair AI, and transparent AI. Responsible AI is critical in ensuring that NGOs use AI systems in a way that is fair, transparent, and accountable. For example, an NGO working to develop AI systems may need to consider issues such as bias and fairness in order to ensure that their systems are responsible and ethical.

Social entrepreneurship refers to the practice of using business principles to drive social change and improve the lives of individuals and communities. Related terms include social innovation, social impact, and social enterprise. Social entrepreneurship has the potential to drive significant positive change in areas such as poverty reduction and education. For instance, an NGO working to provide education to disadvantaged communities may use social entrepreneurship to develop sustainable business models that

can support their programs.

Sustainability refers to the practice of meeting the needs of the present without compromising the ability of future generations to meet their own needs. Related terms include environmental sustainability, social sustainability, and economic sustainability. Sustainability is critical in ensuring that NGOs develop digital solutions that are environmentally friendly and socially responsible. For example, an NGO working to reduce climate change may use sustainability to develop green technologies that can reduce carbon emissions.

Telemedicine refers to the use of digital technologies to provide healthcare services remotely. Related terms include telehealth, remote medicine, and online healthcare. Telemedicine has the potential to drive significant positive change in areas such as healthcare access and health outcomes. For instance, an NGO working to provide healthcare to disadvantaged communities may use telemedicine to develop remote consultation services that can reach more people.

Virtual reality refers to a type of virtual environment that is designed to simulate real-world experiences. Related terms include augmented reality, mixed reality, and extended reality. Virtual reality has the potential to drive significant positive change in areas such as education and training. For example, an NGO working to provide education to disadvantaged communities may use virtual reality to develop interactive and immersive learning platforms.

Web development refers to the practice of designing, building, and maintaining websites and web applications. Related terms include web design, web programming, and web engineering. Web development is critical in ensuring that NGOs develop digital solutions that are user-friendly and accessible. For instance, an NGO working to provide information and resources to disadvantaged communities may use web development to develop user-friendly and accessible websites and web applications.