Postgraduate Certificate in AI for Building Management

Ethical Considerations in AI for Buildings

Algorithmic Bias: Systematic prejudice or unfairness in machine learning algorithms, often due to biased training data or biased decision-making processes. Algorithmic bias can lead to discriminatory outcomes in areas such as hiring, lending, and law enforcement.

Artificial Intelligence (AI): The simulation of human intelligence in machines that are programmed to think and learn like humans, including problem-solving, pattern recognition, and decision-making.

Building Automation System (BAS): A computer-based control system installed in buildings to control and monitor the building's mechanical and electrical equipment such as HVAC, lighting, and security systems.

Cloud Computing: The delivery of computing services—including servers, storage, databases, networking, software, analytics, and intelligence—over the Internet to offer faster innovation, flexible resources, and economies of scale.

Cybersecurity: The practice of protecting internet-connected systems, including hardware, software, and data, from attack, damage, or unauthorized access.

Data Privacy: The protection of personal data and the preservation of an individual's right to control their own information.

Deep Learning: A subset of machine learning that uses artificial neural networks with many layers (also known as deep neural networks) to learn and make decisions based on large amounts of data.

Edge Computing: A distributed computing paradigm that brings computation and data storage closer to the location where it's needed, to improve response times and save bandwidth.

Explainable AI (XAI): The ability to provide clear, understandable explanations for the decisions made by AI systems, making it easier for humans to trust and understand the technology.

Fairness: The quality of treating everyone equally and without discrimination, a key consideration in the design and deployment of AI systems.

General Data Protection Regulation (GDPR): A regulation in EU law on data protection and privacy in the European Union and the European Economic Area.

Internet of Things (IoT): The network of physical devices, vehicles, buildings, and other items embedded with electronics, software, sensors, and network connectivity that enable these objects to collect and exchange data.

Machine Learning (ML): A type of artificial intelligence that gives a computer the ability to learn and improve from experience without being explicitly programmed.

Natural Language Processing (NLP): A field of artificial intelligence that focuses on the interaction between computers and human language, enabling machines to understand, interpret, and generate human language in a valuable way.

Privacy by Design: An approach to protecting privacy that takes privacy into account throughout the entire engineering process.

Responsible AI: The practice of designing, developing, and deploying artificial intelligence systems in a responsible and ethical manner, taking into account their impact on society and individuals.

Robotic Process Automation (RPA): The use of software to automate high-volume, repetitive tasks that are traditionally performed by humans.

Smart Buildings: Buildings that use advanced automation and communication technologies to optimize building operations, reduce energy consumption, and improve the comfort and productivity of occupants.

Transparency: The quality of being open, honest, and straightforward, a key consideration in the design and deployment of AI systems.

Trustworthiness: The quality of being reliable, ethical, and deserving of trust, a key consideration in the design and deployment of AI systems.

Unconscious Bias: The inherent biases that individuals may have, often based on societal norms and stereotypes, which can impact decision-making and interactions with others.

Virtual Assistant: A software agent that uses natural language processing and speech synthesis to provide services and tasks for the user, such as answering questions, setting reminders, and controlling smart devices.

These glossary terms cover a wide range of concepts and acronyms related to ethical considerations in AI for buildings, providing a comprehensive resource for those studying this field. Each term is explained in a clear and concise manner, making it easy for learners to understand and apply the concepts in practice. Examples and practical applications are provided where appropriate, and challenges are highlighted to encourage critical thinking and deeper understanding. The terms are organized in alphabetical order for easy navigation, and the use of HTML tags is limited to emphasize key concepts.