

CHAPTER 9

EXPLAINABLE ARTIFICIAL INTELLIGENCE FOR SMART CITY APPLICATION

Explainable Artificial Intelligence (XAI) is an emerging field of Artificial Intelligence (AI) that aims to develop AI systems that can provide human-understandable explanations of their decision-making processes. XAI is becoming increasingly important in the development of smart city applications, as it can help ensure transparency, accountability, and trustworthiness of AI-based systems deployed in urban environments.

Smart city applications can benefit greatly from XAI by enabling citizens to understand how AI-based systems are making decisions that affect their daily lives. For example, an XAI-based system can provide an explanation of how it arrived at a recommendation to reroute traffic to reduce congestion on a particular road. This explanation can help city planners and citizens understand the reasoning behind the recommendation and make informed decisions about whether or not to implement it.

Another important use case for XAI in smart city applications is in the domain of public safety. For example, an XAI-based system can provide an explanation of how it identified a particular individual as a potential threat based on surveillance footage. This explanation can help law enforcement officials assess the validity of the system's recommendation and take appropriate action.

XAI can help ensure that AI-based systems deployed in smart city applications are transparent, accountable, and trustworthy. By enabling citizens to understand the reasoning behind AI-based decisions, XAI can help build public trust and confidence in these systems, and ultimately promote their widespread adoption.