



Use of Deep Learning Applications for Drone Technology ⊗

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Abstract

Imagine a society where conventional techniques no longer constrain crime investigation and instead use cutting-edge technology to crack cases more quickly and effectively. With the development of deep learning and drone technology, this is the world we are heading towards. Investigators may now collect critical evidence from previously inaccessible sites and analyse it with extraordinary accuracy because of the combination of these two fields. There is tremendous promise for solving crimes previously believed to be unsolvable, and the ramifications for justice are significant. Drones, often referred to as unmanned aerial vehicles (UAVs), are becoming increasingly widespread in various settings, including businesses, factories, and leisure. However, due to their growing popularity, there are no worries about drone-related crime.

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1. Introduction

Drones are becoming a more critical tool in the battle against crime as technology continues to improve rapidly. Law enforcement organisations can gather vital information and evidence that would be challenging or impossible without using these unmanned aerial vehicles. But why is this field of study so significant (Alkinani, M.H., 2021, Attaullah, M., 2022). Simply put, drones may revolutionise the way we conduct criminal investigations. They can give us a bird's-eye perspective of crime scenes, assist us in finding the whereabouts of the missing, and even help us find suspects. Thanks to the development of deep learning algorithms, we can now examine the enormous volumes of data that drones collect to see patterns and abnormalities that may have gone unnoticed. Figure 1 Scenario of drones emerging technology.

Figure 1. Scenario of drones emerging technology



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The rise in the utilization of high-performance computer facilities has contributed to the popularity of deep learning approaches that employ deep neural networks. Deep learning exhibits enhanced computational power and increased adaptability owing to its capacity to analyze numerous aspects in the context of unstructured data effectively (Audebert, 2019, Babellahi, 2019). The deep learning system sequentially processes the input across multiple layers, with each layer gradually extracting features and transmitting them to the subsequent layer. The initial layers of the model are responsible for removing low-level information, whereas the successive layers integrate these features to create a comprehensive representation. The issue of security has emerged as a prominent worry within the global human civilization, primarily due to the intricate socioeconomic framework of societies worldwide (Balakrishnan, 2023, Chhajed, G.J., 2022). Due to the escalating crime rates, the culprit manages to evade incarceration due to deceitful testimony and a shortage of substantial proof.

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