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# Synthetic Crime Scene Generation Using Deep Generative Networks

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## Abstract

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Synthetic crime scenes can provide an effective training tool for law enforcement personnel, enabling them to gain valuable experience without the need for real-world practice. However, creating realistic synthetic crime scenes is a challenging task that requires advanced artificial intelligence techniques. In this paper, we propose a novel architecture for generating synthetic crime scenes using a hybrid VAE + GAN model. The proposed architecture leverages scene graph information and input text embeddings to generate coarse images of the foreground and background using a conditional variational autoencoder (VAE). Two separate generators then generate more detailed images of the foreground and background, and a fusion generator combines them to create a final image. A discriminator evaluates the realism of the generated images. This approach represents a significant contribution to the field, as it enables the generation of highly realistic crime scenes from textual input. The proposed architecture has the potential to be used by law enforcement agencies to aid in crime scene reconstruction, and may also have applications in related fields such as forensic science and criminal justice.

### Keywords

**Synthetic crime scenes**      **Crime scene investigation**

## Generative networks GAN and text to image synthesis

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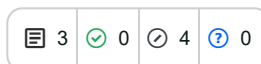
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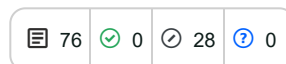
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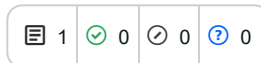
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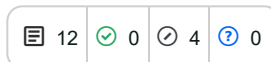
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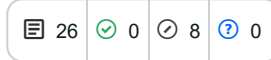


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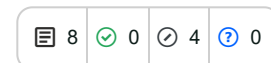


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