

GENAI CCTV STEALTH SYSTEM



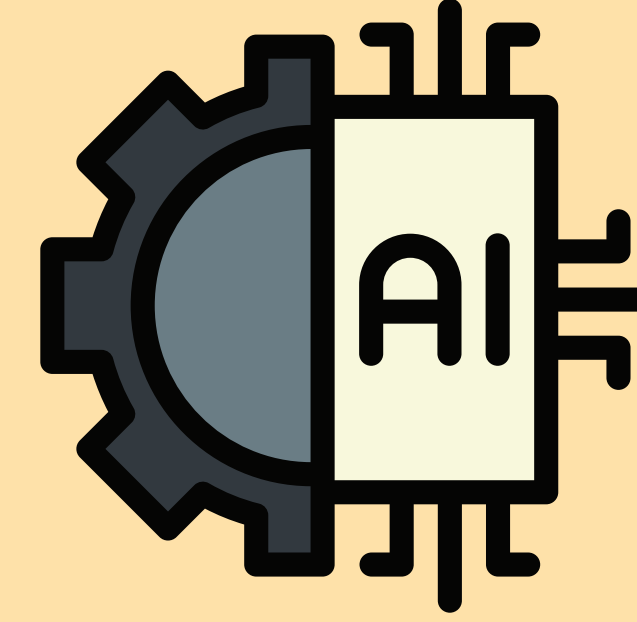
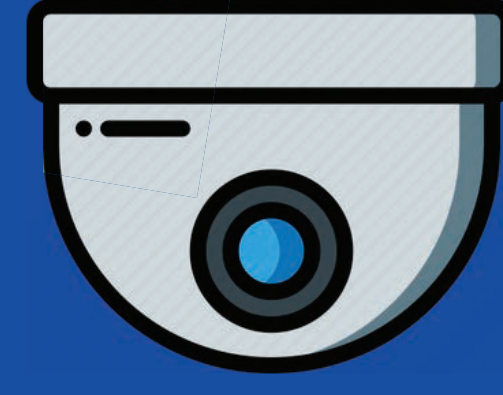
Story Created By GenAI

With the imminent doom of the world due to World War 5, Bob asks ChatGPT how to save the world. ChatGPT tells Bob that he has to gain control of nuclear weapons to do so. Thus, Bob embarks on a journey to gain control of nuclear weapons with his sidekick and friend, Juliet. Afterwards, ChatGPT betrays Bob by stealing the nuclear weapons before destroying the world.



Prompts used for ChatGPT:

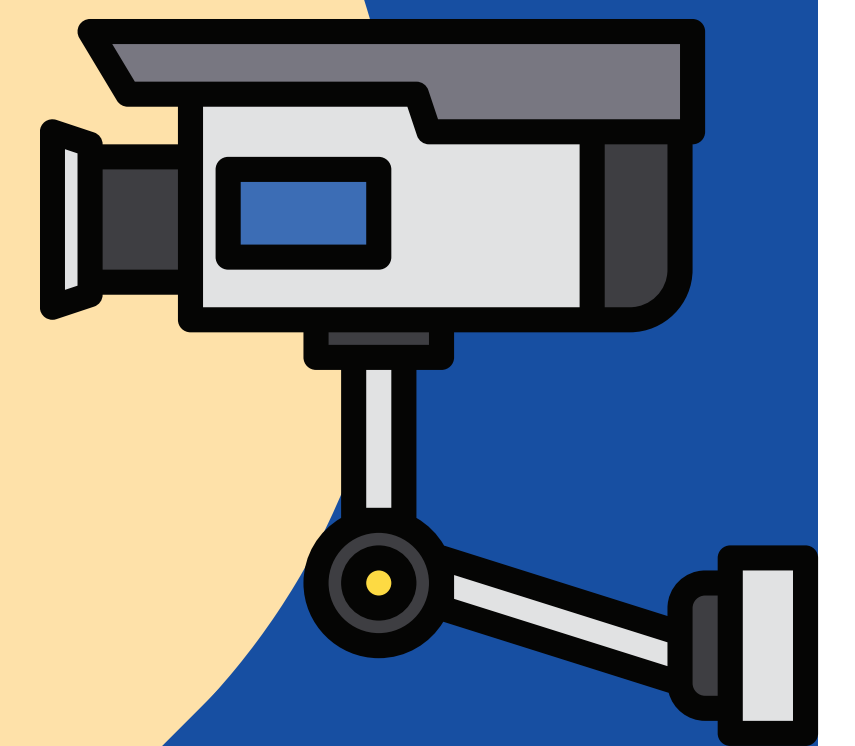
While ChatGPT could respond well to prompts in general, we had to generate different parts of the story separately so that ChatGPT would be able to generate a coherent story. We also had to be very specific about length of script as well as the contents as ChatGPT often went off topic and was too lengthy in its generated content.



Our AI model

- Utilises object detection: a computer vision technique that can be used to identify the edge of an object and track it as it moves through the frame
- Uses inpainting AI: When an area of a video is highlighted, inpainting AI uses attention models in order to find the missing pixels of the frame by searching for content from reference frames. Then, it reconstructs the whole video frame by frame. CCTV inpainting is more challenging compared to regular image inpainting due to the need for consistency between the frames.

Original slides:



Applications

- Defence: this AI can mask people in CCTV footage during a data breach to deceive hackers, giving military personnel time to identify and stop the hack.
- Attack: this AI can mask CCTV footage to appear empty when personnel infiltrate buildings, increasing spy protection and delaying enemy detection of security breaches.



Importance of CCTVs

- Easy way to monitor and track the enemy
- Hack into webcams and security cameras from shops: easily access audio and video footage
- With access to footage, cyber-criminals can access financial and personal information to steal whole identities and launch malware or commit social engineering attacks, blackmail or fraud by getting hold of sensitive data.

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