

~ Chromatic Ghost ~

Artworks for GA2024

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using AI to generate emotion-based colour palettes and applying them to film frames, "Chromatic Ghost" transforms iconic cinematic scenes into layered, ethereal images that evoke the emotional core of the films in a spectral, dreamlike manner. The resulting visual compositions—ghostly, fragmented, and nuanced—invite viewers to contemplate both films' emotional resonance and AI's role as a mediator of this experience.

Abstract:

"Chromatic Ghost" delves into the convergence of artificial intelligence and the emotional narrative of cinema, exploring how AI-generated colour palettes can visually express the emotional depth of films. The project aims to assess the capabilities of AI in understanding and translating human emotions into visual representations, questioning how effectively machines, which are increasingly embedded in our lives, can interpret the intricacies of our emotional experiences. By

Statement of Work:

"Chromatic Ghost" is a creative experiment designed to investigate how AI can interpret and visualise human emotion in the context of film. In an era where artificial intelligence is increasingly intertwined with our daily lives, this work examines how well these technologies can grasp and reflect the complexities of human emotions, which are often considered too nuanced or abstract for machines to comprehend.

At its heart, this project focuses on the inherently ethereal nature of emotions. Emotions are often elusive, hard to define, and subjectively measured. "Chromatic Ghost" tackles this challenge by using AI to generate colour palettes corresponding to different emotional states. Each film chosen for this project is reframed through the lens of these AI-generated colour palettes, offering a reinterpretation of the film's emotional landscape.

The central question the project seeks to answer is: Can AI understand and replicate the emotional tones we experience as humans? Using an automated process to apply AI-generated colour palettes to film frames, the project questions the accuracy and depth of AI's emotional interpretation. The final output—composite images made from filtered film frames—creates ghostly representations that are at once recognisable and abstract, like spectral memories of the film's emotional journey. These haunting images are metaphors for the imperfect yet evocative way AI interprets human emotions, like a fleeting glimpse of something we can't fully grasp.

Process of Work:

Emotion Identification and AI Colour Palette Generation:

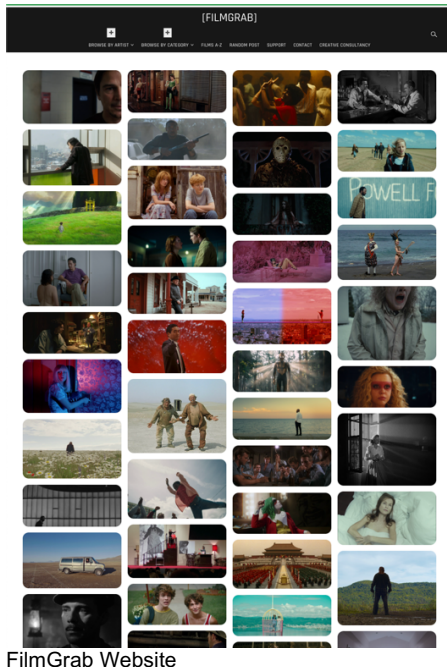
The process begins with AI-generated insights into human emotions. ChatGPT created a list of 20 distinct emotions, ranging from joy to sadness, anger, and fear. For each emotion, the AI-generated a corresponding colour palette of five colours believed to evoke or represent that emotional state. These palettes serve as the cornerstone of the project, representing the AI's interpretation of what each emotion visually "looks" like.



AI-Generated Emotion Colour Schemes

Film Frame Selection and Dataset Creation:

The artwork selected approximately 65 frames per film from the FilmGrab database to ensure a structured and consistent approach. FilmGrab offers a repository of film stills from various movies, providing a rich dataset of iconic moments to draw. Sixty-five frames were chosen as this number allows for a broad yet manageable sample size, ensuring that each film's critical emotional shifts and scenes were captured. The selection of these frames was essential to creating a dataset that could be analysed against the AI-generated colour palettes.



FilmGrab Website

The Suicide Squad



Director: [James Gunn](#)
Director of Photography: [Henry Braham](#)
Production Design: [Beth St. John](#)
Costume Design: [Alicia A. Marston](#)
Year: [2021](#)

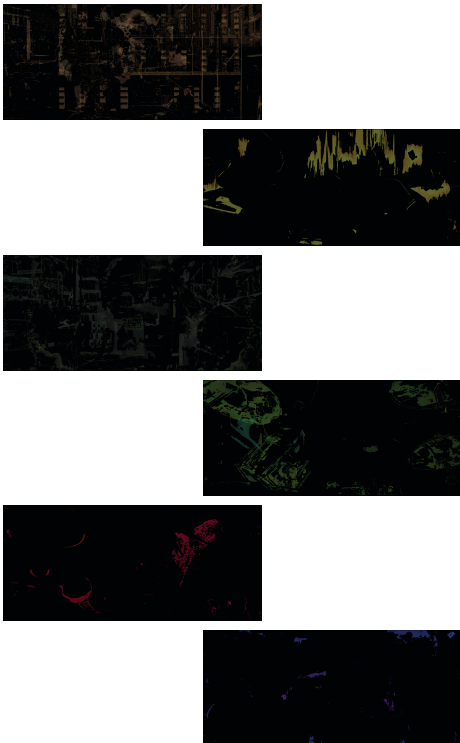


FilmGrab: Selected Movie Frames

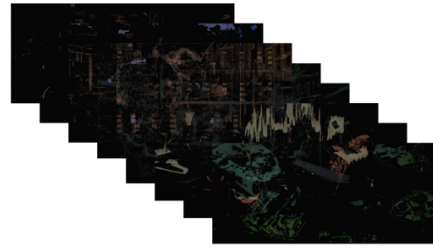
Colour and Emotion Matching through Pixel Analysis:

With both the colour palettes and film frames in place, the next step was to compare the individual pixels of each frame to the AI-generated colour palette

corresponding to a particular emotion. The process involved cycling through every pixel in each frame and checking whether the pixel colour matched any of the colours from the emotional palette. The saturation has a range of ± 20 , and brightness has a range of ± 15 . If a match was found, a pixel was retained for the final composite image, while all other non-matching pixels were discarded. The matching pixels were then layered at rational opacity, ensuring each layer contributed to the final composite image without overwhelming it.



Individual Colour Frames



Overlaying Frames

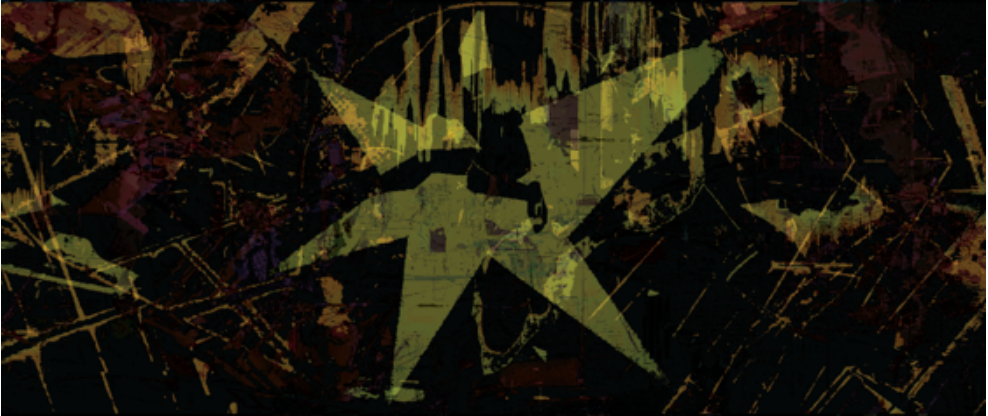
Composite Image Creation and Chromatic Ghost Formation:

The retained pixels from each frame were layered sequentially, building up the composite image frame by frame. As more frames were added, the image began to take shape, gradually forming a visual representation of the film's emotional landscape. These composite images were dubbed "chromatic ghosts" due to their translucent, spectral quality. They resemble faded, haunting portraits reminiscent of old Victorian photographs where time has eroded the details, leaving only traces of the original image behind.

The result is a composite image that visually represents the film's emotional core, filtered through the lens of AI's understanding of colour and emotion. Each "chromatic ghost" captures the essence of the film's emotional journey, creating a visual echo that feels both familiar and otherworldly.



Spiderman across the Spider-verse (2023) - Frustration



Spiderman across the Spider-verse (2023) - Contentment



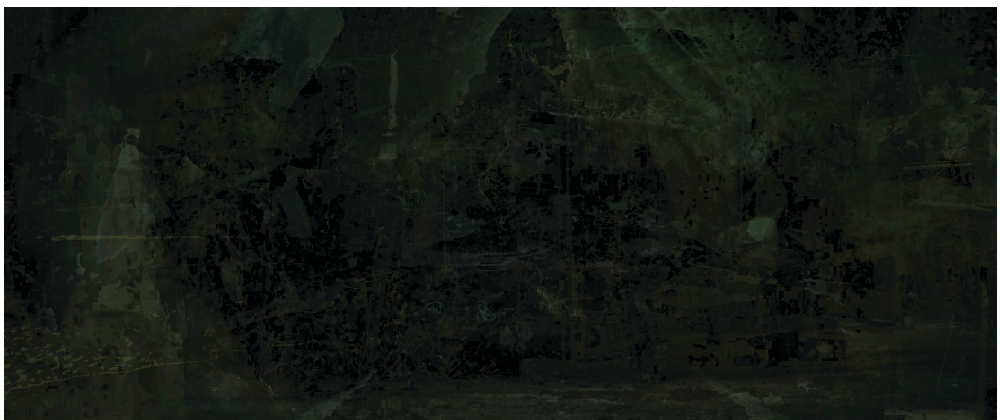
Spiderman across the Spider-verse (2023) - Love



Wonka (2023) - Embarrassment



Wonka (2023) - Jealousy



Wonka (2023) - Fear



The Matrix (1999) - Sadness



The Matrix (1999) - Surprise



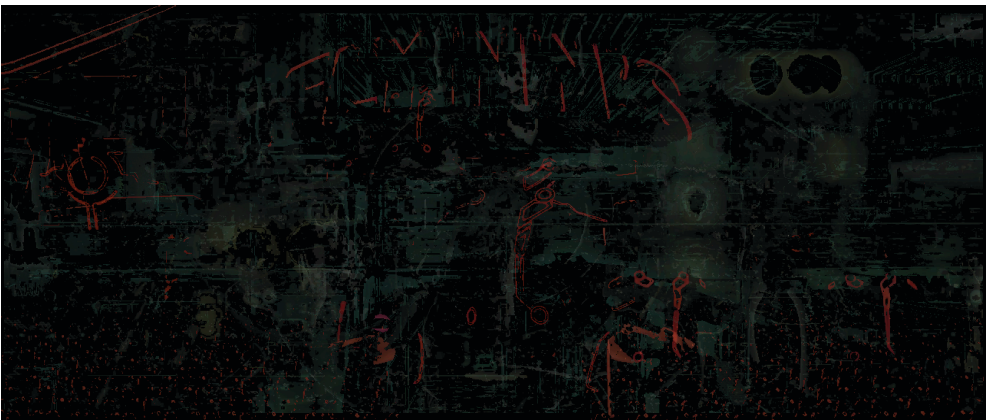
The Matrix (1999) - Relief



Tron (2010) - Excitement



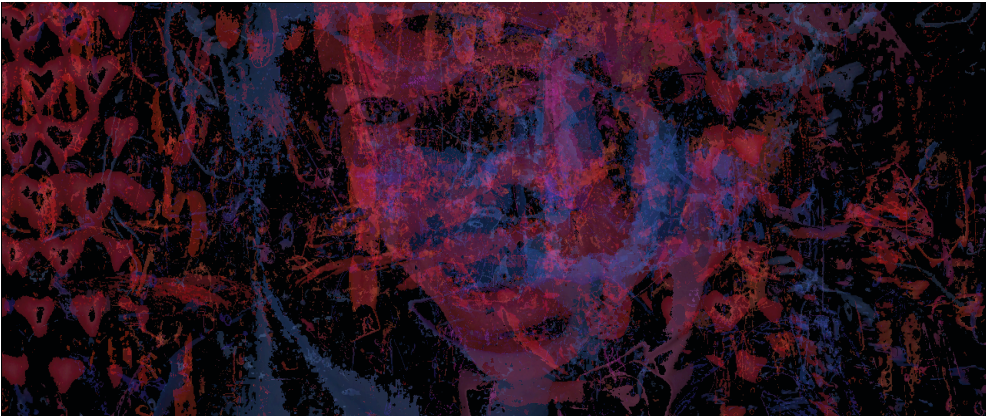
Tron (2010) - Pride



Tron (2010) - Surprise



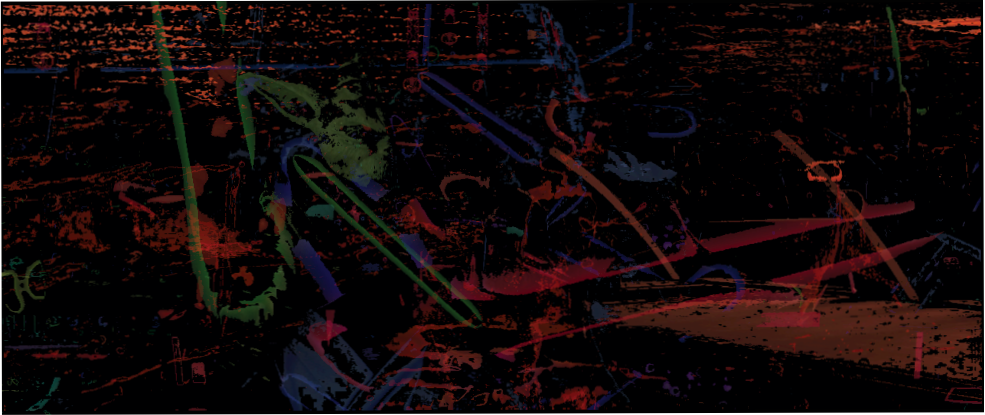
Moulin Rouge (2001) - Excitement



Moulin Rouge (2001) - Pride



Moulin Rouge (2001) - Shame



Star Wars III (2005) - Surprise



Star Wars III (2005) - Confusion

This process reflects the delicate interplay between human emotions and machine interpretation. The "chromatic ghosts" produced by the project highlight the strengths and limitations of AI in emotional communication. While the images

retain emotional resonance, they are also fragmented, imperfect, and open to interpretation. The work invites viewers to consider how much of our emotional reality can be captured by AI and how much remains elusive, like a ghost that can be felt but never fully seen.