

Coloring Music: Bridging Music and Color Palettes for Graphic Design

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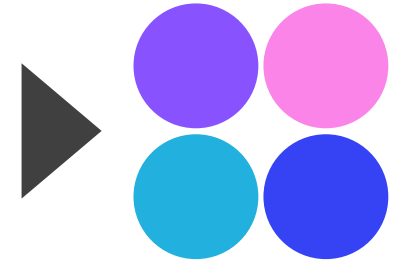
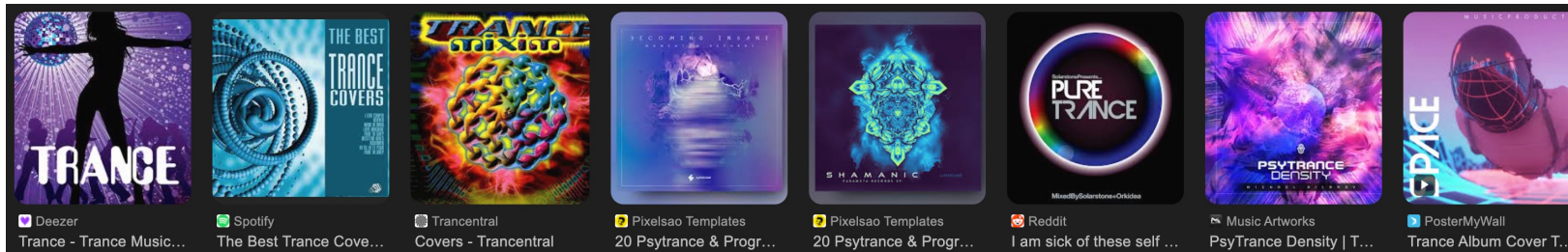
National Institute of Advanced Industrial Science and Technology (AIST)

Music Cover Images Aid Multimodal Music Understanding

Cover images contain **visual features** useful for music genre classification

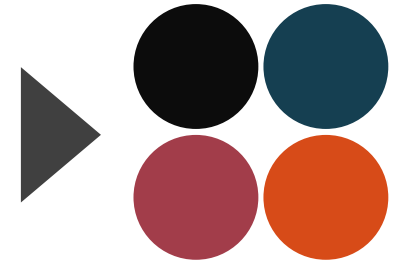
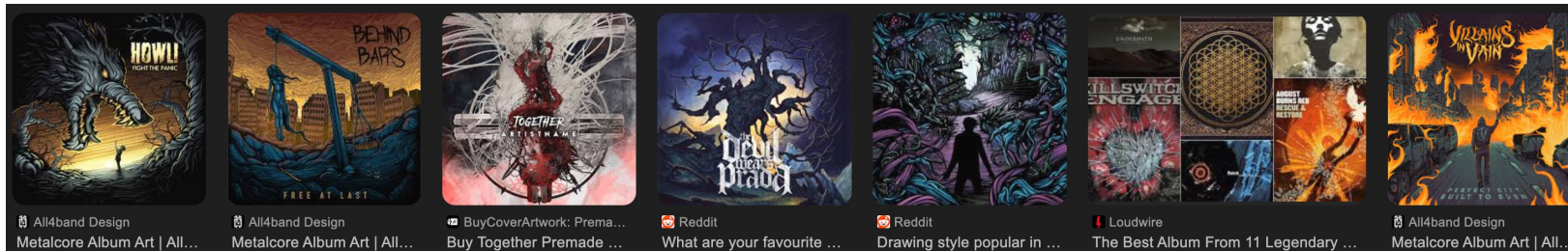
[Oramas+ TISMIR'18, Libeks and Turnbull IEEE Multimedia'11]

Trance



bright neon colors, abstract, futuristic patterns

Metalcore



dark colors, intense, dramatic artwork

Color palettes are associated with each music genre

Music Cover Images Aid Multimodal Music Understanding

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Motivation

(1) Investigate the preferred colors for designing cover images

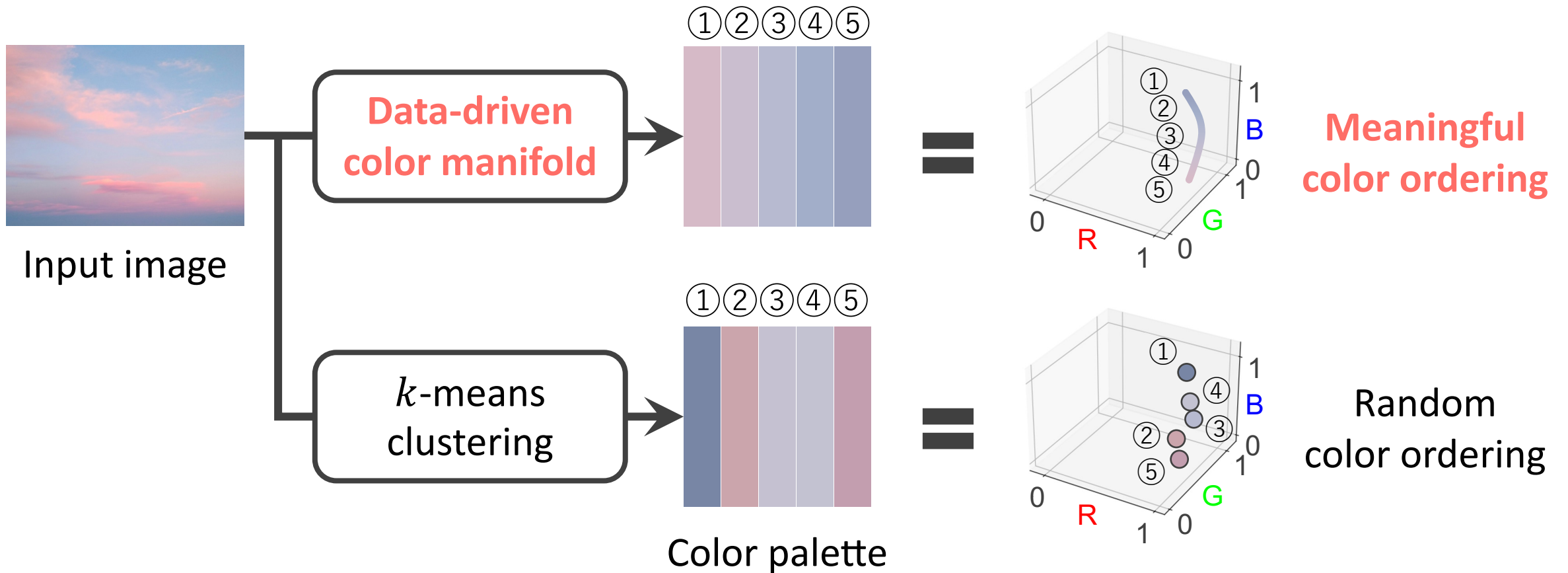
dark colors, intense, dramatic artwork

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Color Palette Extraction

We utilized **data-driven color manifold** to extract color palettes from images

[Nguyen+ ToG'15]



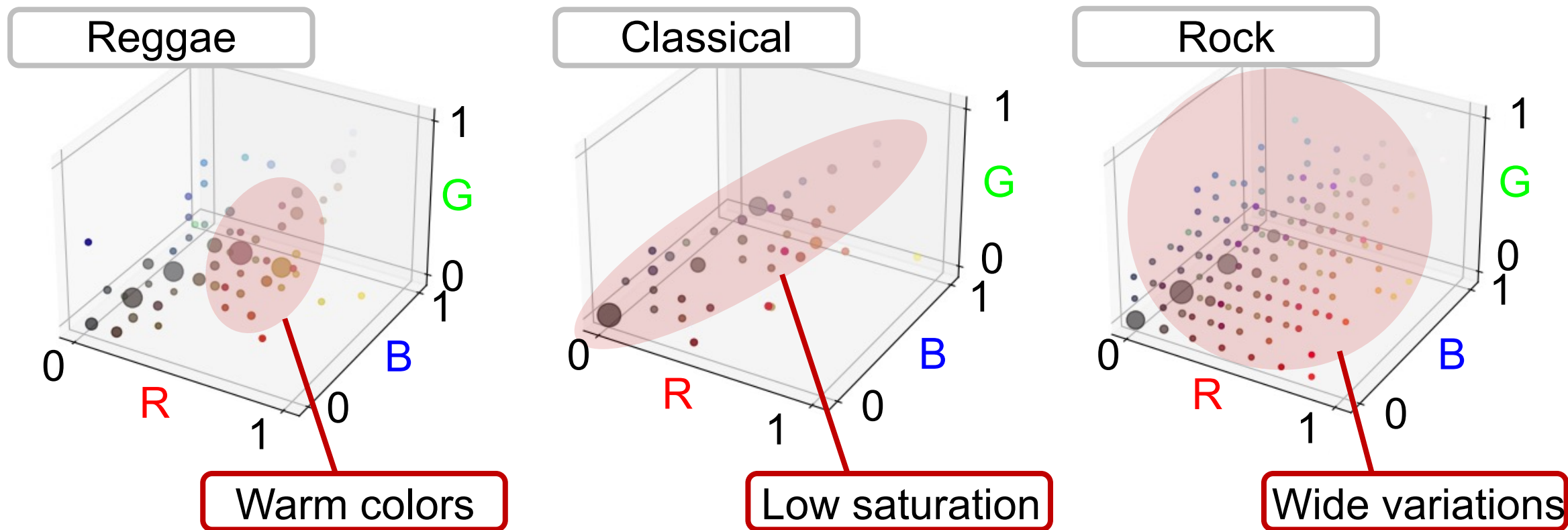
Preferred Color Analysis

We analyzed the preferred colors for designing music cover images



Preferred Color Analysis

We analyzed the preferred colors for designing music cover images



Trends in the RGB color histogram differ by music genres

Preferred Color Analysis

We analyzed the preferred colors for designing music cover images

Reggae

Classical

Rock

Motivation

- (1) Investigate the preferred colors for designing cover images**
- (2) Explore the relationship between musical pieces and colors**

Warm colors

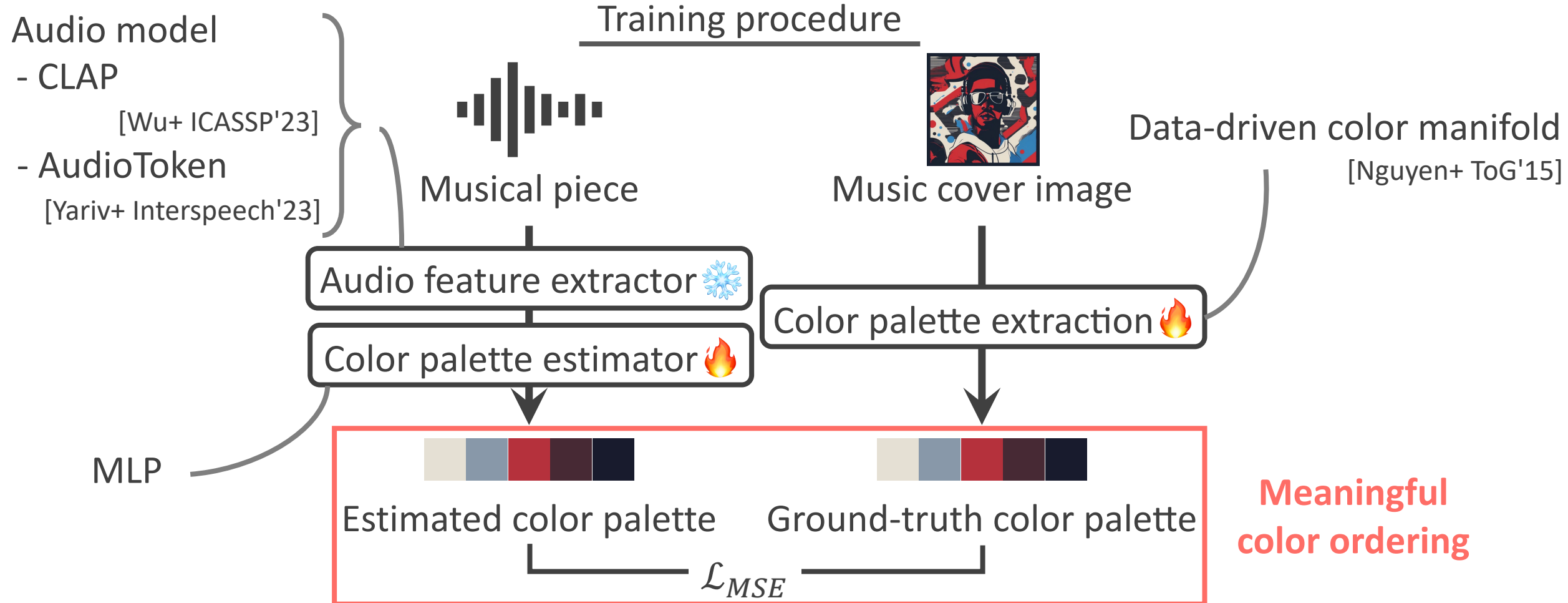
Low saturation

Wide variations

Trends in the RGB color histogram differ by music genres

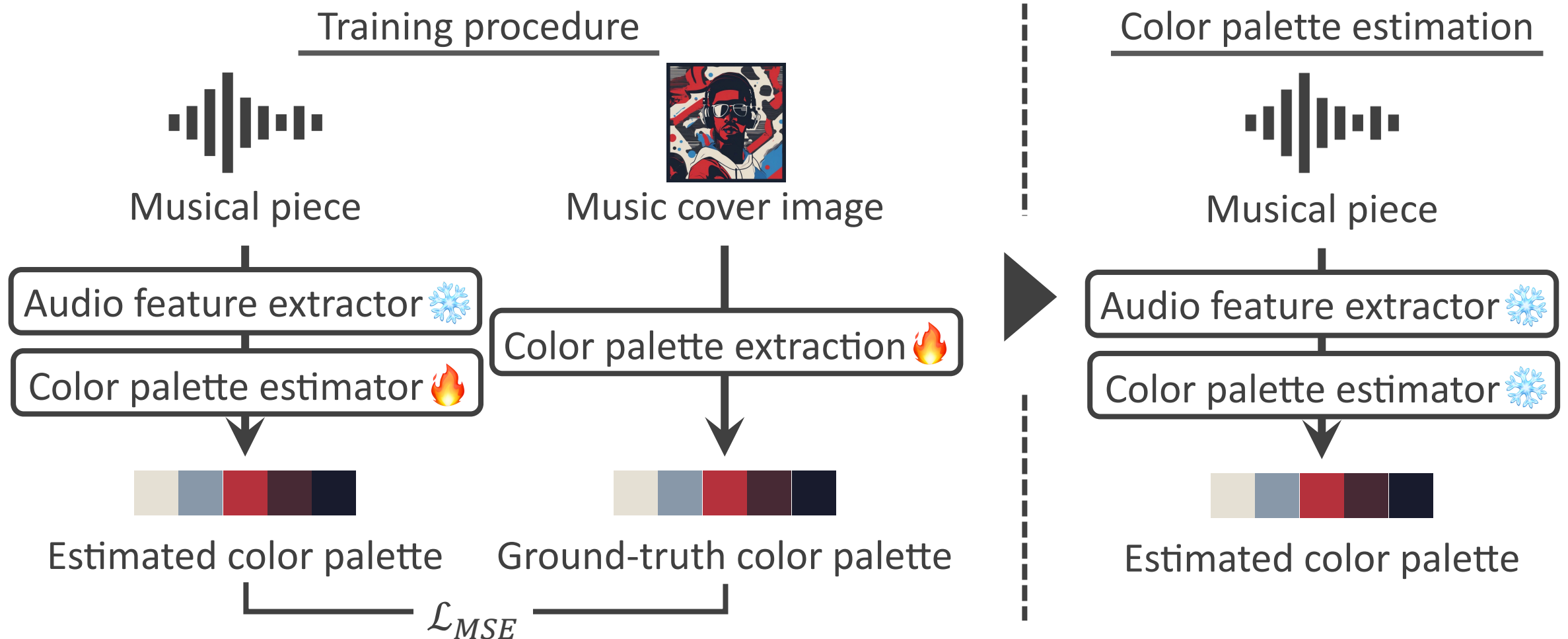
Color Palette Estimation Framework

We propose a framework designed to estimate color palettes from musical pieces



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Example Results

The results of our color palette estimation are close to those of original image



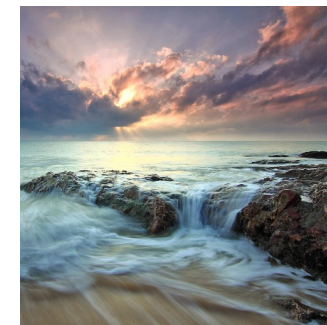
Tiff/Simi

Color Palette
Estimation



Cold Ones/Relaxing
Piano Music

Color Palette
Estimation



Estimated
color palette

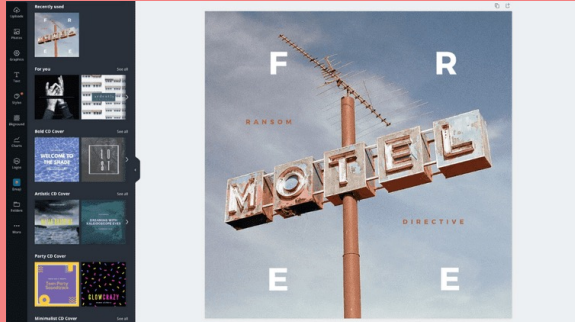
Original
cover image

Input
musical piece

Applications of Color Palette



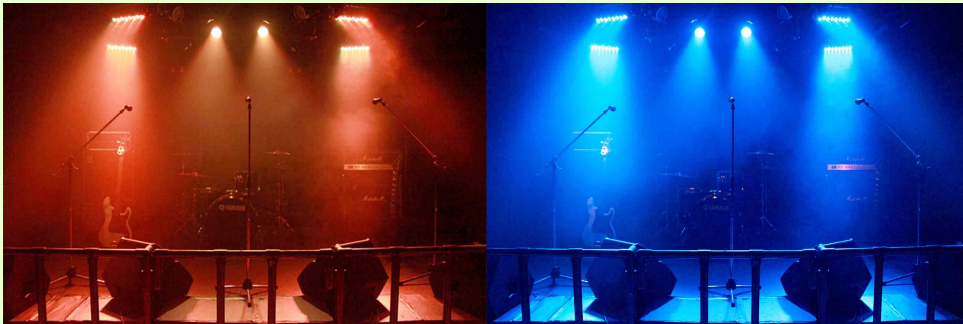
Cover image design



Video creation



Lighting control



Branding



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Contributions:

- Our study finds **the relationship between auditory and visual expression**, specifically through the colors chosen for music cover images.
- Our proposed framework employs deep learning techniques to **estimate appropriate color palettes from musical pieces** for graphic design.
- Our framework can **streamline the design process** by automating or helping the process of color selection.