Part of Your World: Trends in the Visual Complexity of Digital Media

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Abstract

Studying the mechanisms and trajectories of child development continues to be of critical importance, especially in the context of fast-changing digital environments, ubiquitous screens, and ever-increasing permeations of technology into our lives. In this work, we study historical changes in the visual complexity of information presented in different media categories, including an eighty-year history of Disney movies and a forty-six-year history of NBC news programs and television commercials. Our analyses include metrics of static visual variance in single frames as well as several metrics of visual change over time. By performing similar analyses on a dataset of egocentric videos, we compare trends in digital media with data that more closely resemble real-life visual experiences. Understanding the visual characteristics of the media we consume is an important step towards further investigating the effects that these characteristics might have on our perception, attention, and learning, especially in young children.