Research Proposal

Integration Of Sentiment Analysis From Visual Media In Influencing The Accuracy And User Satisfaction Of Music Sync Recommendation Models

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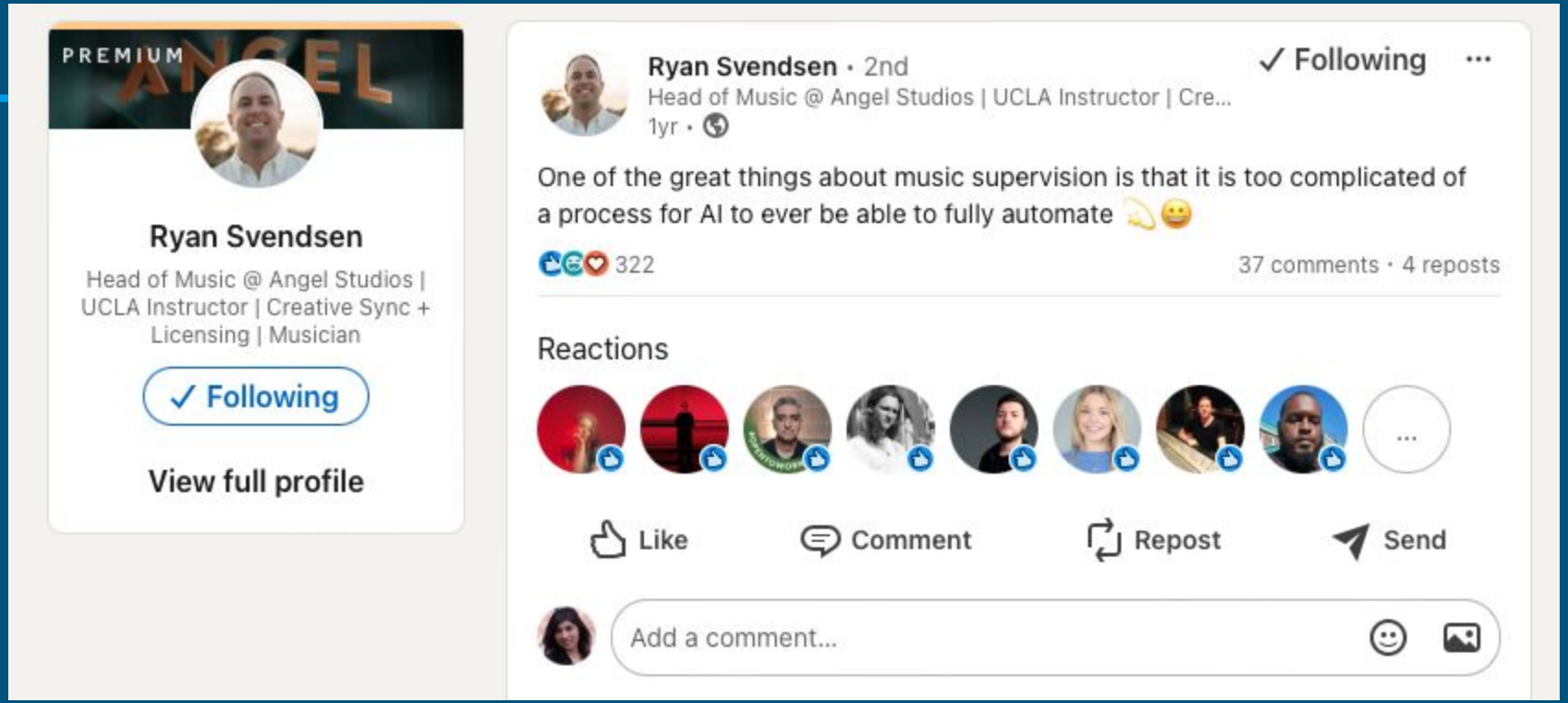
Contents

Introduction

- Music Synchronization (i.e. Syncing)
  - Music Supervision
- Music Recommendation Systems
- AI as an aid to a Music Supervisor
  - Process is then semi-automated
- AI Music Supervisor
  - Process is automated
  - Sentiment Analysis



Source: LinkedIn Post by Ryan Svendsen

Significance/Contribution To The Discipline/Research Problem

- Music Syncing Industry
- Significance of Research Topic
  - Emotional impact on music selection
  - Contribution to music curation
  - Gaps in existing models
- AI can help in music supervision

Research Question

Main question:

How does the integration of sentiment analysis from visual media influence the accuracy and user satisfaction of music sync recommendation models compared to traditional music curation approaches?

Sub questions:

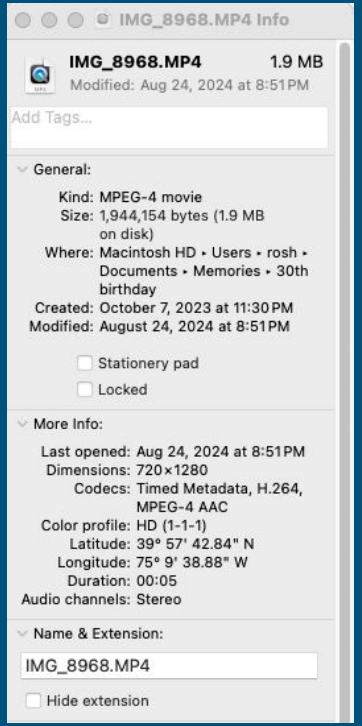
- What specific emotional attributes from visual media are most relevant to music selection?
- How does user engagement differ between sentiment-enhanced recommendations and traditional methods?

Aims And Objectives

- General Aim
- Research Purpose
- Objective

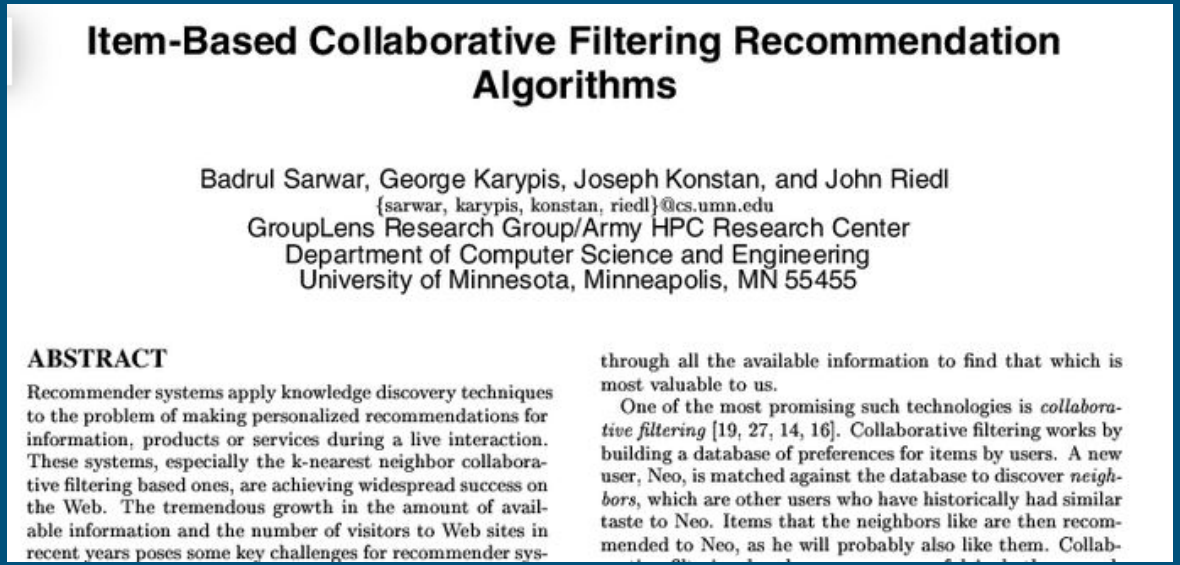
Key Literature Related To The Project

- Mewo.io - an AI-Assisted Platform / Search Engine (Songs That Work, 2023):
  - Helps music supervisors find tunes for films, TV shows, video games, and advertisements
    - Uses an AI model trained for tagging, recommendation, and lyric analysis
  - AI searching - based on METADATA tags (Baker, 2018)



Key Literature Related To The Project

- Music Recommendation Systems



Item-Based Collaborative Filtering Recommendation Algorithms

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ABSTRACT

Recommender systems apply knowledge discovery techniques to the problem of making personalized recommendations for information, products or services during a live interaction. These systems, especially the k-nearest neighbor collaborative filtering based ones, are achieving widespread success on the Web. The tremendous growth in the amount of available information and the number of visitors to Web sites in recent years poses some key challenges for recommender sys-

through all the available information to find that which is most valuable to us.

One of the most promising such technologies is *collaborative filtering* [19, 27, 14, 16]. Collaborative filtering works by building a database of preferences for items by users. A new user, Neo, is matched against the database to discover *neighbors*, which are other users who have historically had similar taste to Neo. Items that the neighbors like are then recommended to Neo, as he will probably also like them. Collab-

Key Literature Related To The Project

- Sentiment Analysis Techniques

  A. L. et al. (2018). *Deep Learning for Sentiment Analysis: A Review*. IEEE Access.

Key Literature Related To The Project

- Emotional Resonance in Music

  K. S. et al. (2017). *The Role of Music in Film: An Overview of the Literature*. Journal of Film Music.

Methodology/Development Strategy/Research Design

- Research Methodology
- Data Collection
- Model Development

Ethical Considerations

- User Data Privacy
- Bias and Representation

Description Of Artefact(s) That Will Be Created

- Prototyped Recommendation System
- Research Paper/Report
- Presentations and Workshops

Timeline of Proposed Activities

Phase 1: Literature Review (Month 1-2)
Phase 2: Data Collection (Month 3-4)
Phase 3: Model Development (Month 5-6)
Phase 4: Testing and Evaluation (Month 7-8)
Phase 5: Reporting and Dissemination (Month 9-10)

Limitations

- Evaluation of Metrics
- Integration Challenges
- Data Quality and Availability
- Limited Scope of Analysis
- Complexity of Sentiment Analysis

Summary

- Key Takeaways
  - Incorporating sentiment analysis into music synchronization recommendations can improve both precision and user satisfaction.
  - Opportunities for advancements in music curation methods
- Future Directions
  - Additional factors affecting recommendations
  - Potential uses other than mentioned
    - Gaming
    - Virtual Reality

Thank you!

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