ISSN 2616-7433 Vol. 8, Issue 4: 39-43, DOI: 10.25236/FSST.2026.080407

Processed Feelings: Limits of Algorithmic Emotion Classification

Jiayue Wu

School of Communication and Media, University of Leeds, Leeds, LS2 9JT, UK
wwjoliey_@outlook.com

Abstract: *This paper presents Processed Feelings, a critical interactive web prototype that examines the limitations of algorithmic emotion classification. Inspired by sentiment analysis systems, the prototype processes users' textual descriptions of emotion through a JavaScript-based rule system that detects predefined keywords and assigns corresponding emotional categories. Rather than aiming for accurate emotion recognition, the project deliberately exposes the assumptions, simplifications, and failures embedded in computational classification. Programming is employed not only as a technical tool but also as a methodological approach for investigating how emotional meaning is constructed through data and predefined rules. Through iterative creative coding, misclassification, ambiguity, and unrecognized inputs are retained as meaningful design features rather than treated solely as technical errors. By making these limitations visible, Processed Feelings highlights the gap between subjective emotional experience and computational representation. The project ultimately questions the authority and objectivity commonly attributed to emotion-recognition technologies and encourages reflection on how emotions are categorized, processed, and legitimized within data-driven systems.*

Keywords: *Algorithmic emotion classification; Sentiment analysis; Critical design; Creative coding; Human-computer interaction; Data classification*

1. Introduction

In recent years, many digital systems have begun to claim that they can understand human emotions. These tools include sentiment analysis and human emotion-based functions found in everyday digital platforms and applications. Despite increasing skepticism from academia regarding their scientific basis and ethical implications, the sentiment interpretations of these systems are generally considered objectively reliable. Researchers point out that emotions are not constant, universal signals; rather, they are experiences constructed by context, culture, and interpretation [1][2]. Meanwhile, many emotion recognition systems reduce complex emotional experiences into a small number of measurable categories [3].

Processed Feelings is a critical interactive web prototype that responds to these concerns by simulating an automated emotional interpretation system. Rather than attempting to accurately "read" user emotions, the project foregrounds the limitations, assumptions, and failures inherent in algorithmic classification. Through a system that extracts keywords from user input, assigns predefined emotional labels, and produces confident yet incomplete outputs, the prototype exposes how emotional data is constructed rather than discovered.

Positioned within traditions of critical and speculative design [4], this project uses programming not as a neutral tool but as a method of inquiry. By allowing the system to misinterpret, oversimplify, and assert authority over subjective experience, Processed Feelings invites reflection on what is lost when complex human emotions are processed through data-driven systems, and questions the growing cultural trust placed in algorithmic interpretations of affect.

2. How to use the prototype

This prototype is designed as a short, guided interaction. When a user first opens the page, a system notice appears, mainly providing instructions before using the webpage. The user then sees a login page introducing the system and inviting them to enter. Clicking the "Enter" button takes the user to the main interactive interface.

ISSN 2616-7433 Vol. 8, Issue 4: 39-43, DOI: 10.25236/FSST.2026.080407

On the input page, users can freely enter their feelings. There are no strict restrictions on length or content; users can enter a word, a sentence, or a short paragraph. After the text is submitted, the system scans predefined emotional keywords to process the input.

Once processed, the prototype generates a results page displaying the system's interpretation of the user's emotional state. This interpretation is expressed through text output, visual changes, and a deliberately crafted systematic tone.

3. Project overview

Processed Feelings is an interactive website inspired by sentiment analysis. The site consists of three main pages: a login page, an input interface, and a results page. These three stages together form a concise and independent interactive flow designed to guide users through how the system interprets their feelings. (As shown in figure 1)

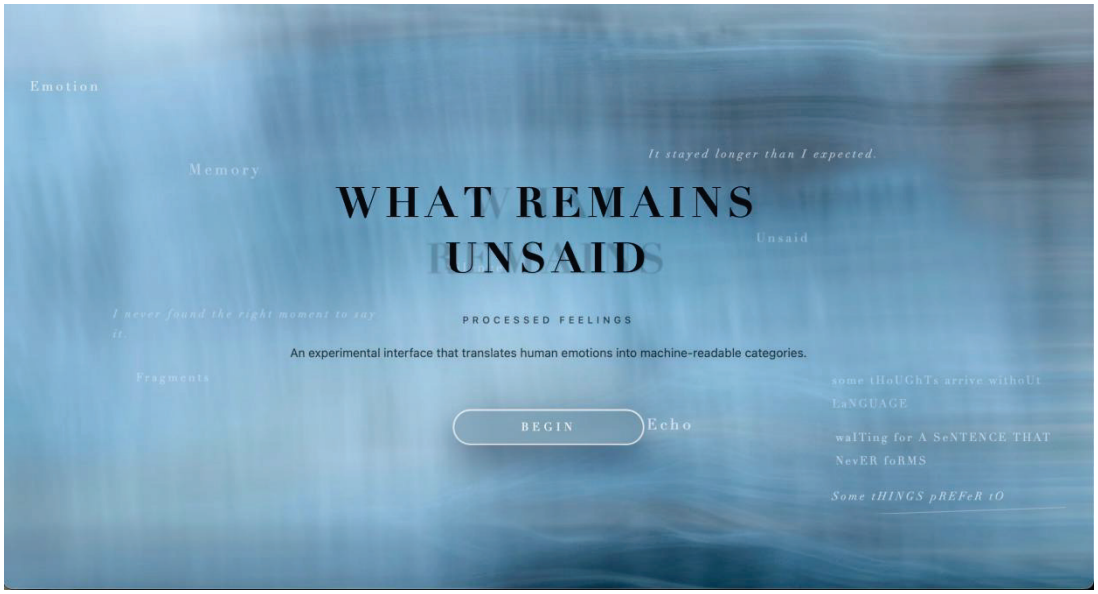


Figure 1. Landing page of Processed Feelings

The landing page uses a clean visual style and floating text effects to set the tone for the website. The design primarily aims to create an emotional atmosphere through randomly appearing and floating words and scrambled uppercase and lowercase characters in the lower left corner of the page. All interfaces maintain a relatively consistent visual and interactive approach. The login page is designed as a transitional entry point, indicating to users that they are about to interact with a process, rather than browsing content. Users then enter the main interactive phase.

The input interface consists of two important parts: the input section and the output results section. Users can freely enter text describing their feelings. This text becomes the primary material for the system's processing.

After the user submits text, the system uses a pre-defined JavaScript-based classification script to process the input. This script scans for predefined sentiment keywords. Based on this internal logic, the system generates a corresponding response on the results page. This response combines text output with visual changes. The output is presented in a clear and assertive tone, similar to the way algorithmic systems typically express judgments. (As shown in figure 2)

ISSN 2616-7433 Vol. 8, Issue 4: 39-43, DOI: 10.25236/FSST.2026.080407

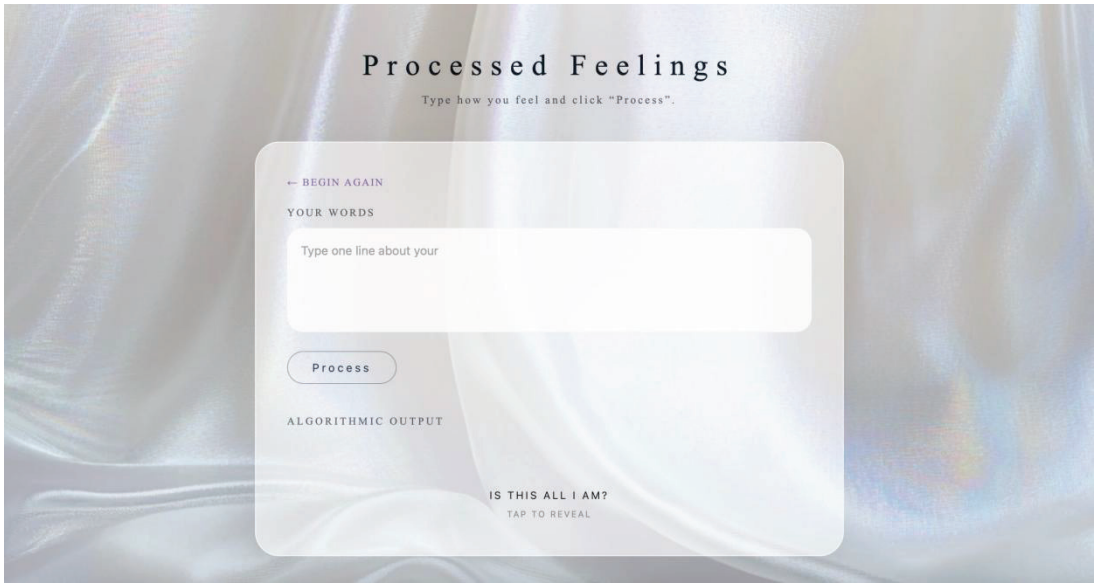


Figure 2. Input interface of Processed Feelings

4. Programming as a method

In the "Emotion Processing" project, programming is not merely a technical tool, but a methodological framework for examining the interpretation of emotions. At the heart of the project is a JavaScript-based classification script that processes user input by detecting predefined emotion keywords and mapping them to a finite set of emotion categories. This logic-driven process constructs the system's way of "understanding" emotions, thus shaping the system's output and its authority.

The script does not pursue computational precision, but rather emphasizes the assumptions inherent in rule-based classification. Decisions about which words to include, how to group them, and which emotion categories to provide directly influence the system's interpretation. In this sense, the code acts as a theoretical model of emotion, transforming subjective expressions into structured data through a set of predefined rules.

This approach aligns with the view that programming is a research practice, where automatic extraction and classification are guided by prior assumptions about what constitutes meaningful data [5]. Similar to theory-driven data extraction, the system selectively focuses on certain textual features while ignoring others. Therefore, the final output is not an objective reflection of the user's emotional state, but rather a product of the system's internal logic.

By visualizing this process interactively, the project uses programming to examine the gap between genuine emotional experiences and computer interpretations. The approach does not attempt to bridge this gap; instead, it reveals how algorithmic systems confidently generate meaning from onesided and simplified inputs. In this process, "processed emotion" treats programming itself as a critique, using code to question the limitations of algorithmic understanding.

5. Data, classification, and algorithm simplification

At its core, Processed Feelings is a system that transforms free-form emotional expressions into structured data. This transformation relies on a predefined sentiment lexicon, which, as a small dataset, maps selected keywords to specific sentiment categories. Through this process, the system converts subjective language into discrete, processable output.

However, this classification approach is inherently selective. Decisions about which sentiment terms are included, how they are grouped, and which categories are available all influence what the system can recognize. Emotional expressions outside these predefined boundaries are either misinterpreted or completely ignored. Thus, the system does not simply reflect emotion but actively generates specific versions of emotion through its data structure.

Schrock [6] argues that data practices are never neutral because they determine what is visible and

ISSN 2616-7433 Vol. 8, Issue 4: 39-43, DOI: 10.25236/FSST.2026.080407

what is excluded. In Processed Feelings, the sentiment lexicon is a prime example of this dynamic. By simplifying complex emotional experiences into a finite set of labels, the system highlights the political and interpretative nature of data classification. What appears to be an objective computational process is actually influenced by human decisions embedded in the code.

This simplification also reflects a broader trend in algorithmic systems: compressing subtle human experiences into simplified categories. As D'Ignazio and Klein [7] point out, data systems often present partial representations as complete ones, thereby reinforcing the authority of the statistically analyzed content while obscuring what is omitted. This compression is particularly evident in the context of sentiment interpretation, as ambiguous, contradictory, or context-dependent emotions are difficult to classify reliably.

Barrett [1] challenges the assumption that emotions exist as fixed, universally identifiable entities. From this perspective, any attempt to classify emotions through static categories is inherently limited. The "Processed Feelings" system reveals this limitation by allowing it to generate reliable interpretations from incomplete information. The final output highlights the gap between genuine emotional experiences and the simplified representations produced by algorithmic classification.

This project does not attempt to resolve this contradiction but rather uses simplification itself as a critical strategy. By revealing how sentiment data is constructed through classification, the "Processed Feelings" project guides users to question the authority of systems that claim to interpret emotions. The prototype does not propose an alternative model for sentiment analysis; instead, it emphasizes the consequences of treating emotions as data that can be clearly categorized and processed.

6. Experimentation through creative coding

The development of "Processed Feelings" was not a linear process, but rather an iterative experimental one. Throughout the coding process, various functions frequently failed to function as expected; for example, categorization logic was flawed, visual responses were inconsistent, and interactions sometimes produced vague or unsatisfactory outputs. These intermittent failures were not directly eliminated but rather used in the creative process to observe and understand how the system operates.

Creative coding practice is described as a space where failure can breed new possibilities, rather than being a manifestation of defects [8]. In web design and programming, errors are not merely seen as technical failures but gradually transform into new design clues. When the system could not recognize the emotion words entered by the user, the page initially only redirected to "404 not found." In trying to respond to this deficiency, I realized that this "unrecognizable" state itself had expressive meaning, leading to the development of an interface specifically for presenting emotions that cannot be categorized.(As shown in figure 3)

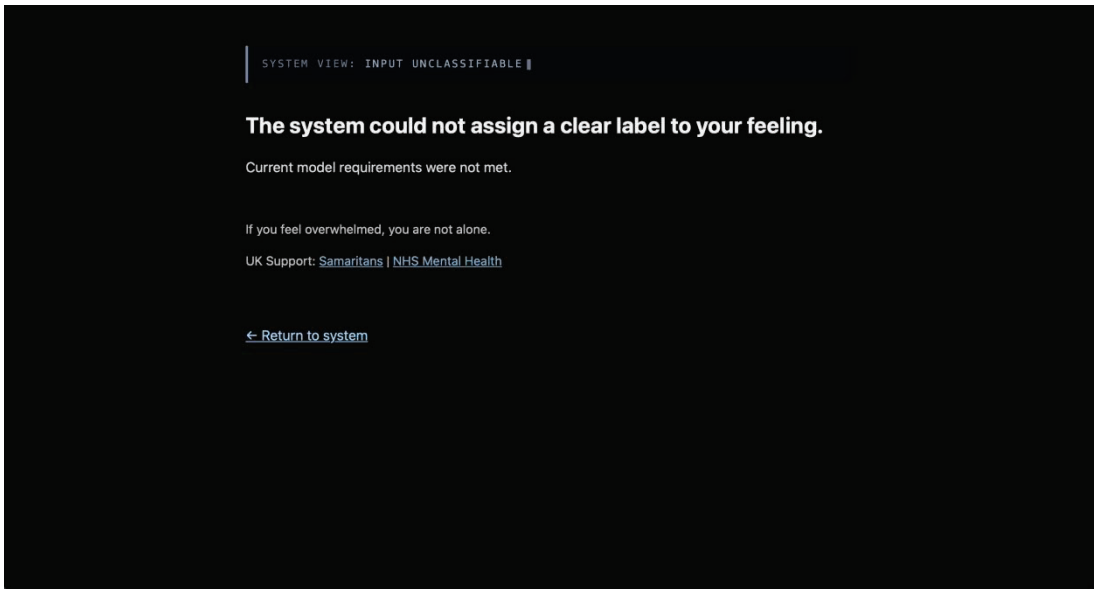


Figure 3. Unrecognized emotion page

ISSN 2616-7433 Vol. 8, Issue 4: 39-43, DOI: 10.25236/FSST.2026.080407

This independent interface is used on the website to present the boundaries of the system's emotion categorization. In the early stages of the project, I tried to make the system's judgments more complete by adjusting the rules and expanding the dictionary. However, these modifications didn't bring the system closer to understanding emotions themselves; they merely made its output more definitive. Through repeated trials, I gradually realized that rulebased emotion interpretation couldn't truly handle the ambiguity and contradictions in emotional expression. It was during this process that the project's direction shifted: instead of constantly correcting the system's misjudgments, these misjudgments were retained as part of the design.

Therefore, failure became an intentional characteristic of the system. The algorithm's inability to fully interpret user input reflected the inherent limitations of computational methods in emotion processing. The system's one-sided, repetitive, or overly affirmative responses were not accidental but intentional, designed to reflect the algorithm's fragility in meaning construction when applied to subjective experiences.

In this process, experimentation gradually shifted from continuously modifying the system to observing its behavior itself. Through creative coding, the project allowed the system to retain its incomplete and unstable state, thus revealing the limitations of rule-based emotion interpretation in actual operation. This approach didn't aim to improve the accuracy of judgments but rather made the implicit assumptions in the code visible by preserving biases and uncertainties.

7. Conclusion

Processed Feelings focuses on how computational systems actively produce interpretations of emotion, rather than simply uncovering emotions that already exist. This project builds a rule-based prototype that categorizes user input into predefined emotion categories, highlighting the inherent assumptions and simplifications in algorithmic emotion processing. Instead of presenting emotion data as objective or complete, the system demonstrates how it can generate so-called "emotional meaning" by focusing only on selected data and interpreting user input according to predetermined classification rules.

Using programming as a methodology and creative coding as an experiment, this project challenges the conventional wisdom that technological systems should steadily evolve towards higher accuracy or optimization. Misunderstandings, uncertainties, and failures are treated as integral parts of the system’s operation rather than errors to be corrected. These moments reveal the limitations of rule-based emotion analysis and highlight the gap between genuine emotional experiences and computational representations.

Importantly, Processed Feelings is not intended to provide a better way to recognize emotion, but rather to guide reflection on the problems of existing emotion recognition technologies by demonstrating how the system works. Instead, as a critical prototype, it aims to provoke reflection on the authority often attributed to emotion algorithms for interpretation. By keeping the system’s limitations visible, the project encourages users to question how emotional meaning is constructed, processed, and legitimized in a data-driven environment.

References

[1] Barrett, L. F. (2017). How Emotions Are Made: The Secret Life of the Brain. London: Macmillan.
[2] Illouz, E. (2007). Cold Intimacies: The Making of Emotional Capitalism. Cambridge: Polity Press.
[3] Crawford, K. (2021). Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence. New Haven: Yale University Press.
[4] Dunne, A. and Raby, F. (2013). Speculative Everything: Design, Fiction, and Social Dreaming. Cambridge, MA: MIT Press.
[5] Landers, R. N., Brusso, R. C., Cavanaugh, K. J. and Collmus, A. B. (2016). A primer on theory-driven web scraping: Automatic extraction of big data from the Internet for use in psychological research. Psychological Methods, 21(4), 475-492.
[6] Schrock, A. (2016). Civic hacking as data activism and advocacy: A history from publicity to open government data. New Media & Society, 18(4), 581-599.
[7] D'Ignazio, C. and Klein, L. F. (2020). Data Feminism. Cambridge, MA: MIT Press.
[8] Armitage, J. (2018). Spaces to fail in: Negotiating gender, community and technology in Algorave. Dancecult, 10(1), 31-45.