Annotation Guidelines

Task Description and Annotation Guidelines:

You are invited to take part in the annotation study of developers contributed texts in GitHub Code Review. We are interested in annotating the presence of emotions in review comments that are discussed by both author and reviewer in the code review process.

The review comments are collected from both open source and closed source subject systems. In this study, we use the closed source review comments from the existing study of Rahman et. al [1] and the open-source review comments are scrapped from the popular GitHub subject systems- Elastic, Square, Keras, NumPy, Polymer and Meteor. You will be required to annotate randomly selected review comments. The unit of annotation is the entire comments.

You will use the coding schema reported in Table A. For each post, please indicate what emotion it conveys (if any) among the basic emotions (first column in the table), that are, love, joy, surprise, anger, sadness, and fear. Multiple Emotion labels are allowed but you should try to avoid if possible. You can use the second and third level in the schema as a reference for choosing the primary emotion, as shown in Table B.

Once you define the emotion label, please specify the emotion polarity, accordingly, choosing among positive(+1), negative(-1), neutral(0), and mixed (2). If the post does not contain any emotion, it should be annotated as neutral. The surprise is the only emotion that could match any of the polarity value: please, carefully evaluate each post to determine if it conveys positive, negative, or neutral polarity. If multiple emotion labels are indicated in each text, you should define the polarity accordingly. A text annotated with one or more positive emotions only has a positive polarity. Conversely, a post annotated with one or more negative emotions holds a negative polarity. If both positive and negative emotions are found, you should indicate both. If you wish to indicate a polarity label you are required to specify the corresponding emotion. The absence of emotion can be annotated exclusively as neutral. The list of all possible combination allowed and not allowed by our coding schema is reported in Table C.

Table A: Mapping the Shaver et al. [2] emotion framework to sentiment polarity

Emotion Polarity	Basic Emotions	Second level emotions	Third level emotions
Positive	Love	Affections	Liking, Caring, Compassion, Fondness, Affection, Love, Attraction, Tenderness, Sentimentality
		Lust	Desire, Passion, Infatuation, Arousal
		Longing	-
	Joy	Cheerfulness	Happiness, Amusement, Satisfaction, Bliss, Gaiety, Glee, Jolliness, Joviality, Joy, Delight, Enjoyment, Gladness, Jubilation, Elation, Ecstasy, Euphoria
		Zest	Enthusiasm, Excitement, Thrill, Zeal, Exhilaration
		Contentment, Optimism, Pride, Enthrallment	Pleasure, Hope, Eagerness, Triumph, Rapture
Negative	Anger	Irritation	Annoyance, Agitation, Grumpiness, Aggravation, Grouchiness
		Exasperation	Frustration
		Rage	Anger, Fury, Hate, Dislike, Resentment, Outrage, Wrath, Hostility, Bitterness, Ferocity, Loathing, Scorn, Spite, Vengefulness
		Disgust	Revulsion, Contempt
		Envy	Jealousy
		Torment	-
	Sadness	Suffering	Hurt, Anguish, Agony
		Sadness	Depression, Sorrow, Despair, Gloom, Hopelessness, Glumness, Unhappiness, Grief, Woe, Misery, Melancholy
		Disappointment	Displeasure, Dismay
		Shame	Guilt, Regret, Remorse
		Neglect	Embarrassment, Insecurity, Insult, Rejection, Alienation, Isolation, Loneliness, Homesickness, Defeat, Dejection, Humiliation

	Fear	Sympathy	Pity
		Horror	Alarm, Fright, Panic, Terror, Fear, Hysteria, Shock, Mortification
		Nervousness	Anxiety, Distress, Worry, Uneasiness, Tenseness, Apprehension, Dread
Either Positive or Negative	Surprise	Surprise	Amazement, Astonishment

Table B: Examples of Annotated Comments

Input Text	Annotation		Rationale for annotation (Second and Third level emotion found)
	Basic Emotions Found	Polarity	
Nice comment about the change, but that should have been just a comment here, no need to have it in the code itself.	Joy	positive	Cheerfulness (second level), Nice (third level) indicating happiness
I believe you just need to adjust the npm version	Joy	positive	Optimism (second level), believe (third level) indicating hope
Nice addition, thanks. I'm requesting a change in the format 😜	Love	positive	Nice (second level) indicating liking, thanks indicating gratitude
We should avoid the word discussion here, too confusing.	Sadness	negative	Confusing indicating both (second level) disappointment and displeasure
I don't think this comment is necessary	Sadness	negative	This sentence indicating neglect (second level) and rejection (third level) sentiments
Well, this line was stupid!	Anger	negative	Stupid indicating Irritation and Annoyance (second and third level)
Personally, I would prefer spelling the "is" out. Formal written out text should not normally use `'`? The usable surprised me but seems like generally the more typical spelling.	Surprise	negative	Surprise (second level), the usage of 'is' surprised the author since it was not expected

Table C: Combinations of Values Allowed and Not allowed by Our Annotation Schema

Love	Joy	Surprise	Anger	Sadness	Fear	Polarity	Explanation
				Annotation allowed by our schema			
			X			negative	Negative emotion and negative polarity
	X					positive	Positive emotion and positive polarity
		X				positive	Surprise is intrinsically ambiguous; all polarity values are allowed
		X				negative	
		X				neutral	
X	X					positive	Multiple emotion labels, positive polarity
			X	X		negative	Multiple emotion labels, negative polarity
	X		X			Mixed	Multiple emotion labels, mixed polarity
						Neutral	Absence of emotion
				Annotation **NOT** allowed by our schema			
						negative	No emotion and negative polarity
						Positive	No emotion and positive polarity
						Mixed	No emotion and mixed polarity
X						Neutral	Emotion label different from surprise and neutral polarity
				X		Neutral	

1. Rahman, Mohammad Masudur, Chanchal K. Roy, and Raula G. Kula. "Predicting usefulness of code review comments using textual features and developer experience." In 2017 IEEE/ACM 14th International Conference on Mining Software Repositories (MSR), pp. 215-226. IEEE, 2017.
2. Shaver, Phillip, Judith Schwartz, Donald Kirson, and Cary O'connor. "Emotion knowledge: further exploration of a prototype approach." Journal of personality and social psychology 52, no. 6 (1987): 1061.