

# COMP-SCI 5542 (SP17) - Big Data Analytics and Applications

## Project Presentation

### Bidirectional Tunneling of Emoticons with Text



**Team  
9**

**Wolves**

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# • Emotion



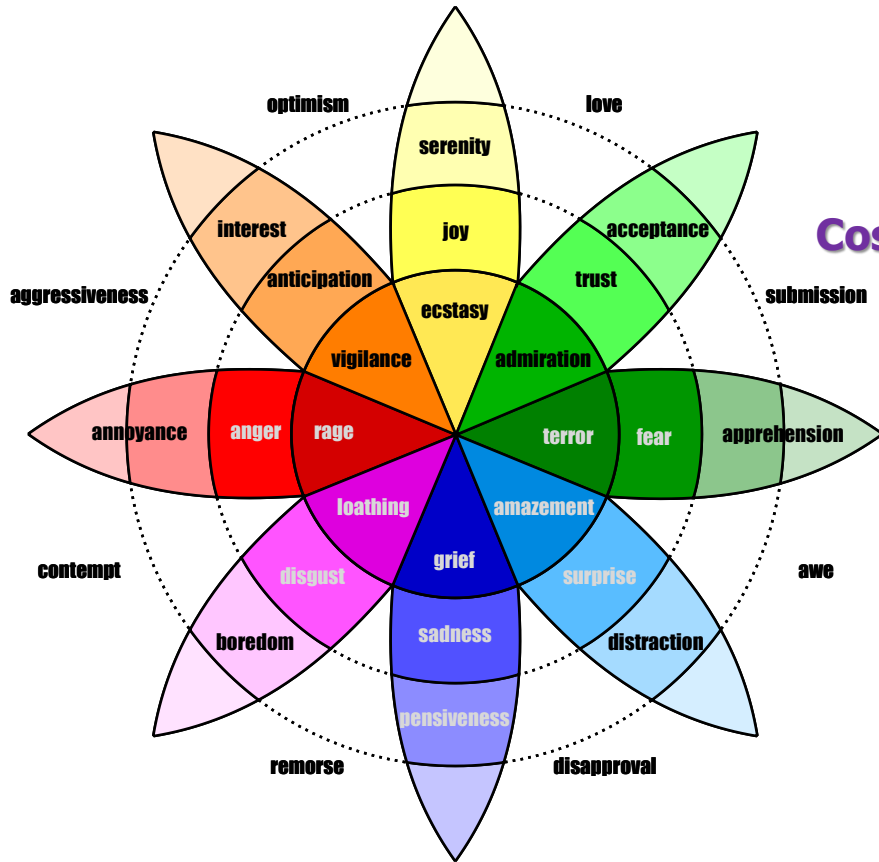
**Emotion: Brief conscious experience characterized by intense mental activity and a high degree of pleasure or displeasure.**

O:)	:-(	:D	<3	:P	:-/	;-)	8-)	8-	:O
O:-)	:(	:D	:-*	:P	>:O	;)	8)	8	:o
:!(	:O	=D	:*	:-p	>:-O	:3	^_^	B-	:o
3:)	B-)	>:(	:-)	:p	>:o	:[	:]	B	-_-
3:-)	B)	>:-(	:)	:/	>:-o	=(	=)	=P	

**Emoticon: Pictorial representation of a facial expression using punctuation marks, numbers and letters, usually written to express a person's feelings or mood.**



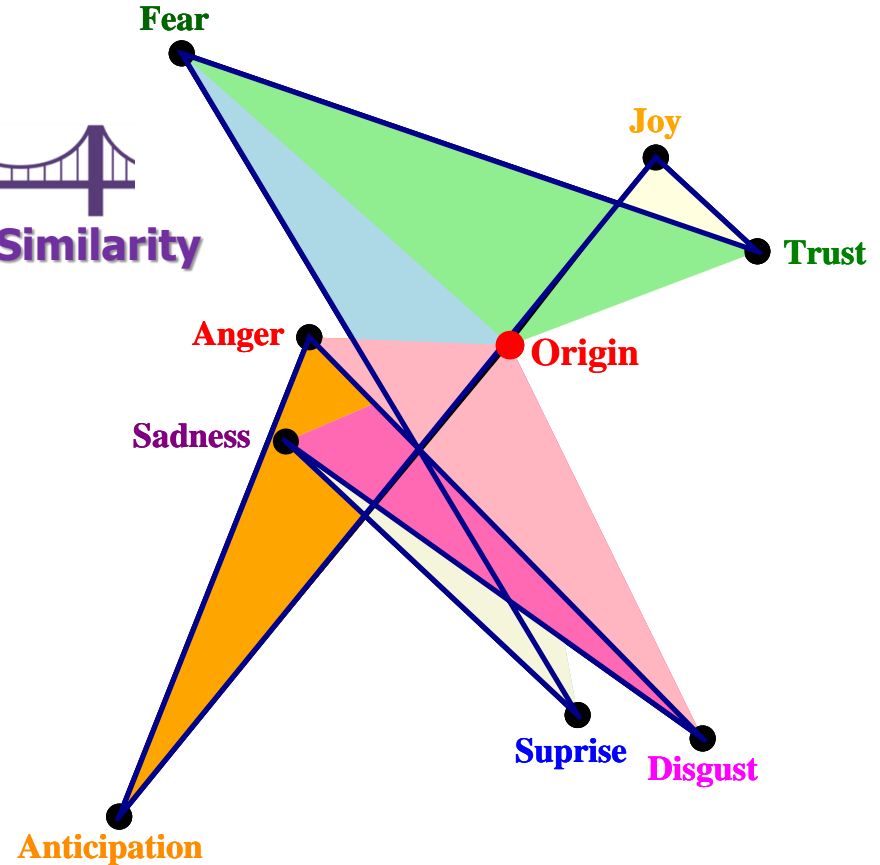
- **Plutchik's Wheel** - The key concept we put in the project



**Plutchik's Wheel of Emotion**

Three degrees of each

Serenity < Joy < Ecstasy



**Our Implementation of the Model**

Spark Word2Vec Model

Cosine Similarity, Magnitude

# • Text-To-Image - Can I extract your mood from your words?

## Spark Training Methodology

**Synonym**



**Negation**



**Antonym**

**joy**

```
{  
  "word": "delight",  
  "weight": "0.435598955"  
},
```

```
{  
  "word": "sorrow",  
  "weight": "0.658137968"  
},
```

I'm so happy today!

I miss you all, my friends.

I had a really busy week!

Merry Christmas!

## Workflow of the Text-To-Image System

<b>Joy</b>	%
<b>Anticipation</b>	%
<b>Anger</b>	%
<b>Disgust</b>	%
<b>Sadness</b>	%
<b>Surprise</b>	%
<b>Fear</b>	%
<b>Trust</b>	%

**Selection  
from  
Emoticons**

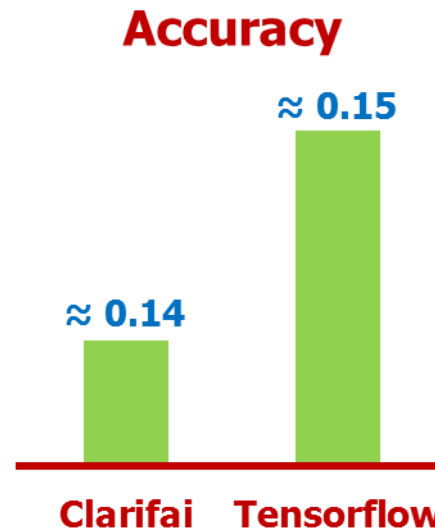


## • Image Training - Accuracy Comparison of Clarifai and Tensorflow

Class	Size
Joy	~100
Anticipation	~100
Anger	~100
Disgust	~100
Sadness	~100
Surprise	~100
Fear	~100
Trust	~100

clarifai TensorFlow™

### Training Methodology



Not showing exactly Ems

Pure Image Input

Single Iteration

Only consider  $W_{max}$

### Workflow of the Image Training System

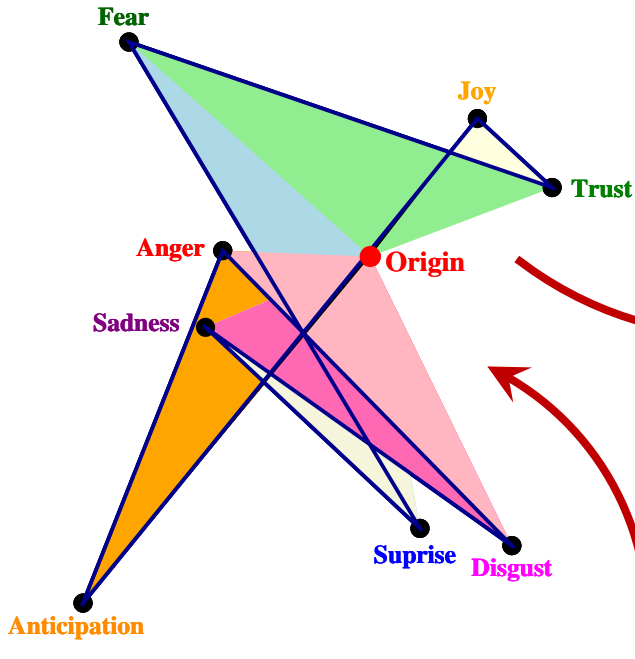


Machine Learning  
Deep Learning  
Processor



8 Classes  
Weight of Each

# • Image-To-Text - Web Application of Bidirectional Emoji Translation



Widgets	ID
Joy	857101424018280450
Anticipation	857101693691076611
Disgust	857101783130406912
Fear	857102156020822016
Sadness	857101986336051200
Surprise	857102092477116417
trust	857102224270524417
Anger	857110132861411331



Class	Size
Joy	~100
Anticipation	~100
Anger	~100
Disgust	~100
Sadness	~100
Surprise	~100
Fear	~100
Trust	~100

**Vanessa Gregory** @VanessaStAlbans · 2h

I was looking forward to [#ToWalkInvisible](#) can't understand a word. Mumbling or music too loud over the dialogue! :(

1 1 4 ...

**Shamanik** @Shamanik · 31s

Great viewing let down by bad sound quality, couldn't hear the dialogue half the time. [#ToWalkInvisible](#)

1 1 1 ...

**Jane Mosse** @camillalookalik · 6m

So disappointed by sound quality in **To Walk Invisible**. Visually beautiful and well-acted but so much was inaudible.

1 1 1 ...