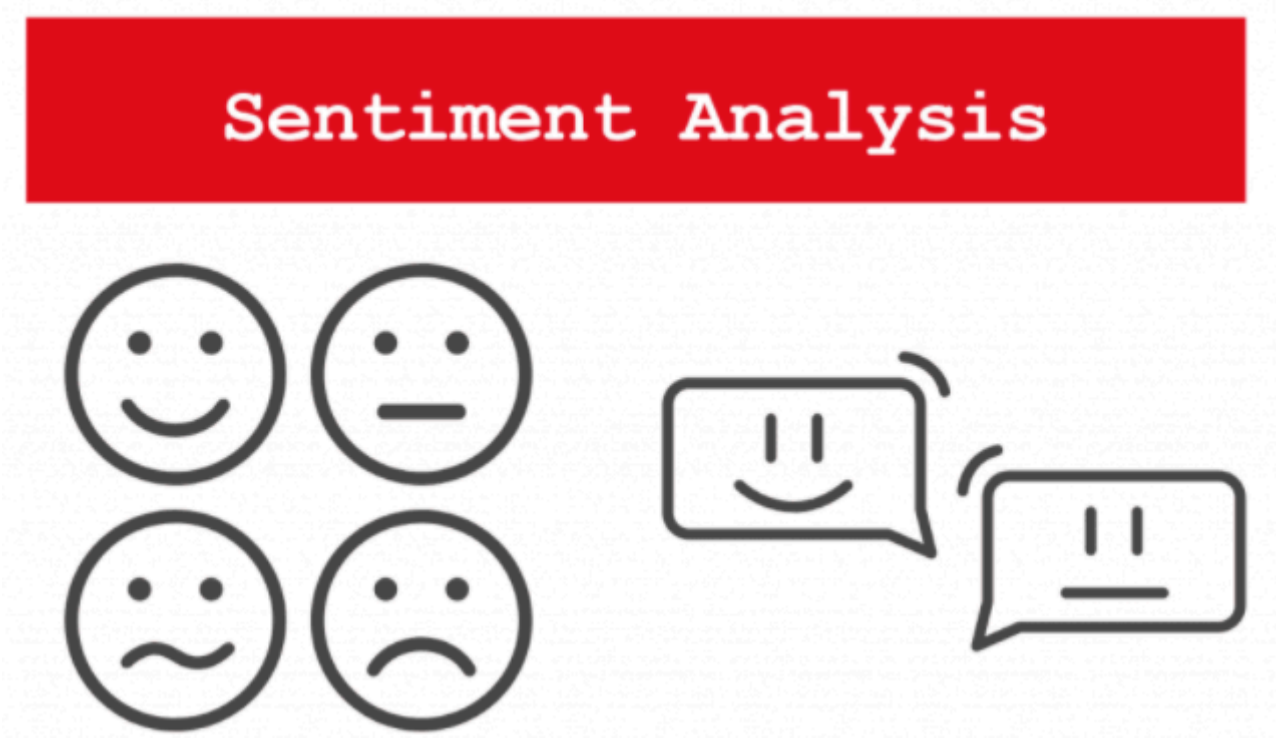
ML
Weathermood: sentiment

Software Studio

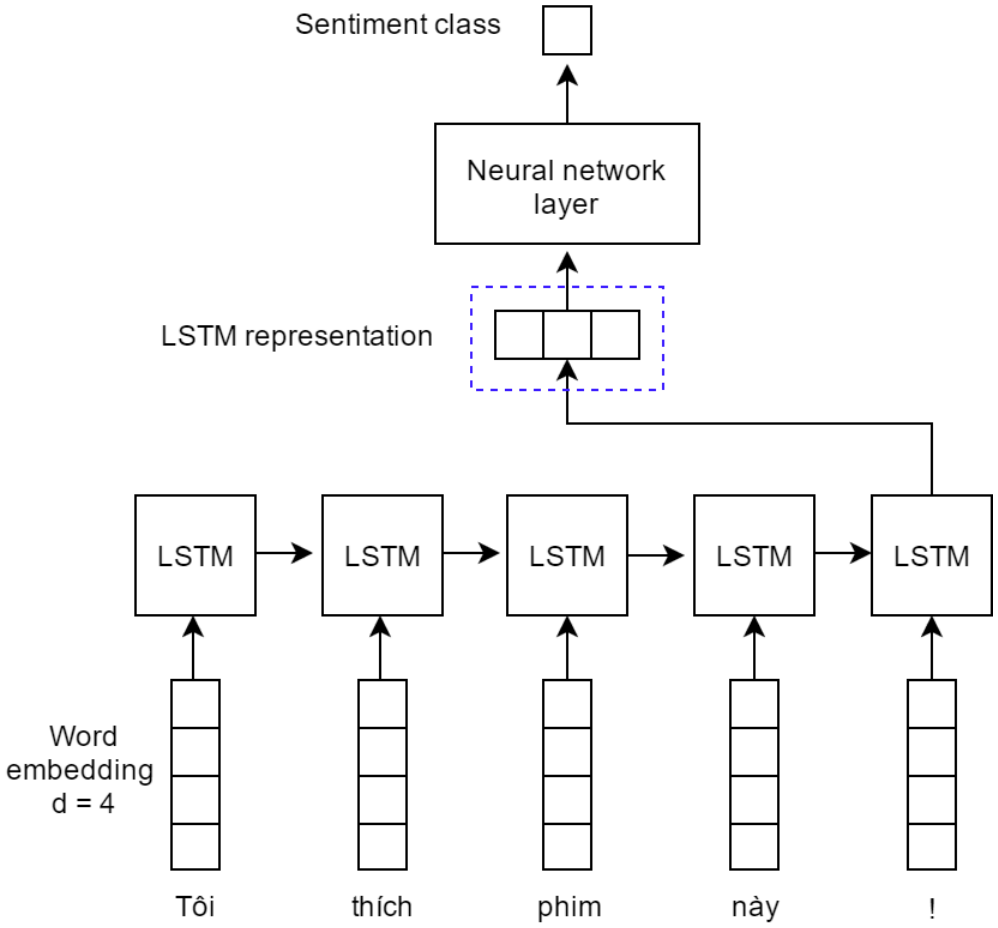
DataLab, CS, NTHU

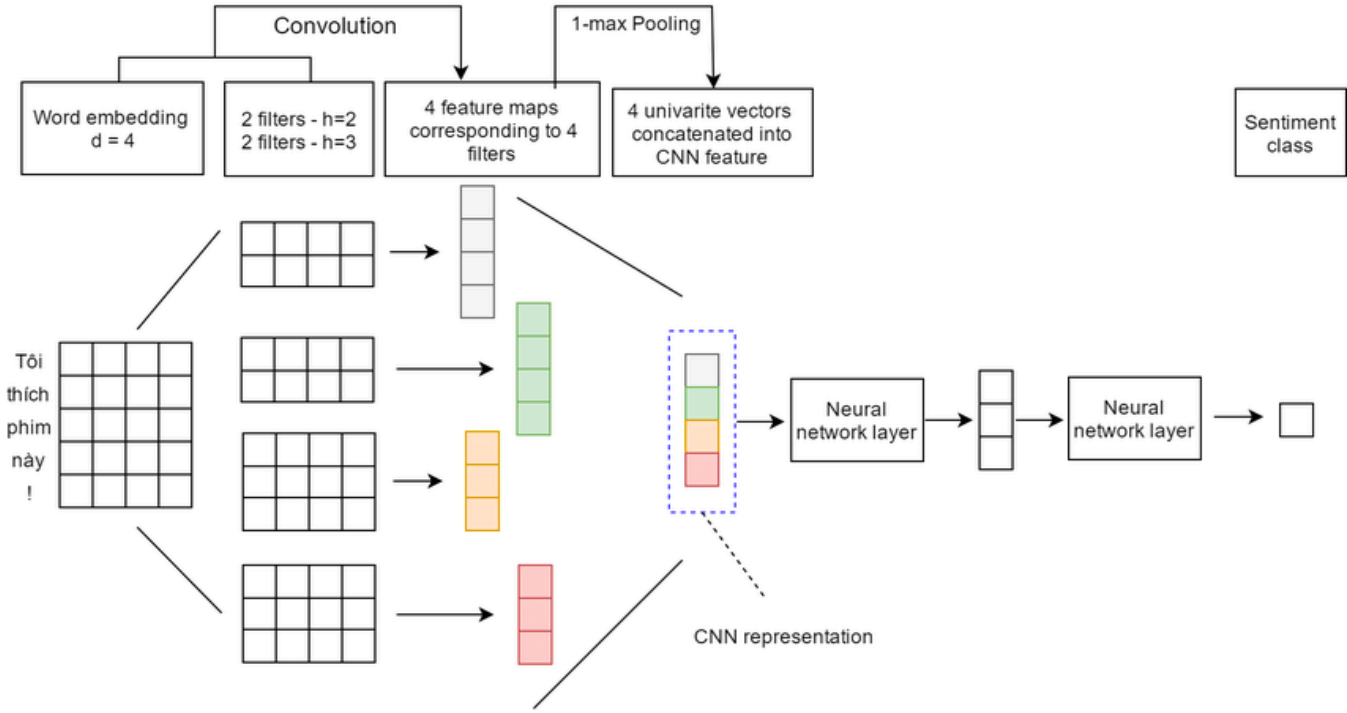
Sentiment Analysis

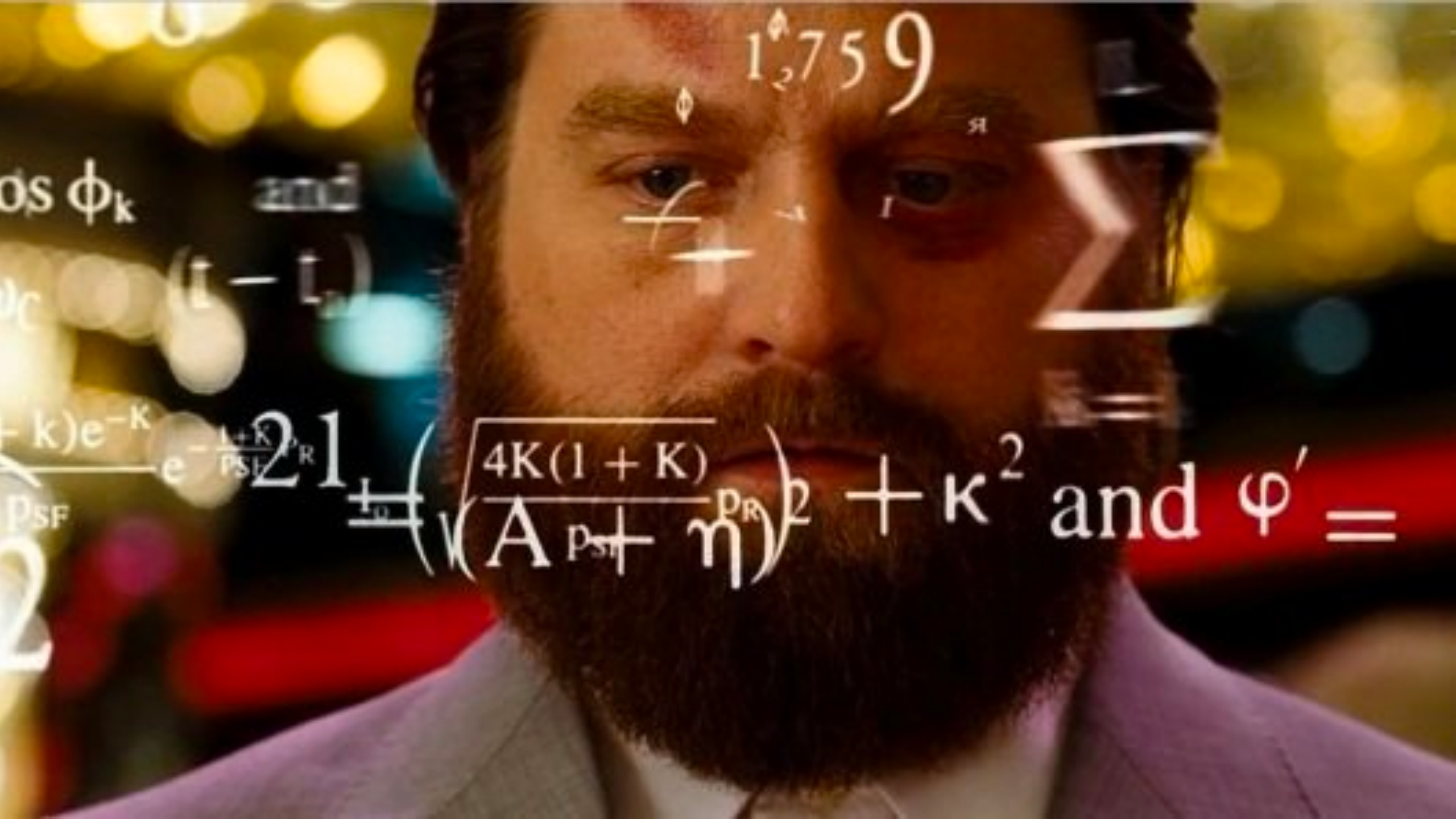
- Natural Language Processing(NLP)
- Input: a piece of text or a sentence
- Output: the score for the opinions and sentiments contained within



Sentiment Analysis





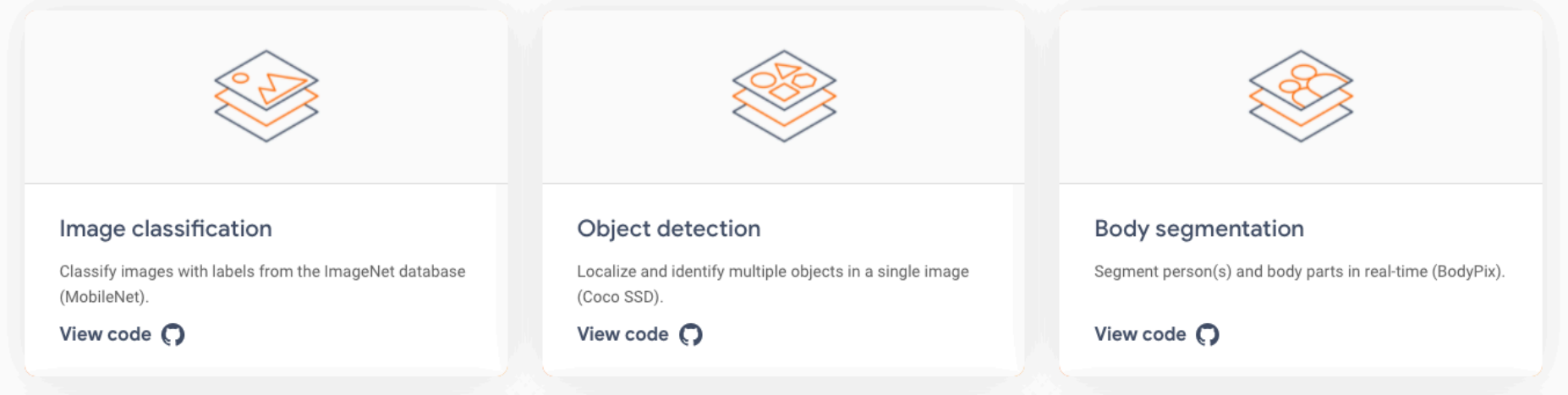

1,759
$\cos\phi_k$ and
$\left(\frac{4K(1+K)}{(A_{PSF}+\eta)^2}\right)^2 + \kappa^2$ and $\varphi' =$

Stand upon the shoulders of Google

- TensorFlow.js
  - Develop ML models in JavaScript, and use ML directly in the browser or in Node.js.

TensorFlow.js

TensorFlow.js



Text Toxicity Detection

[source]

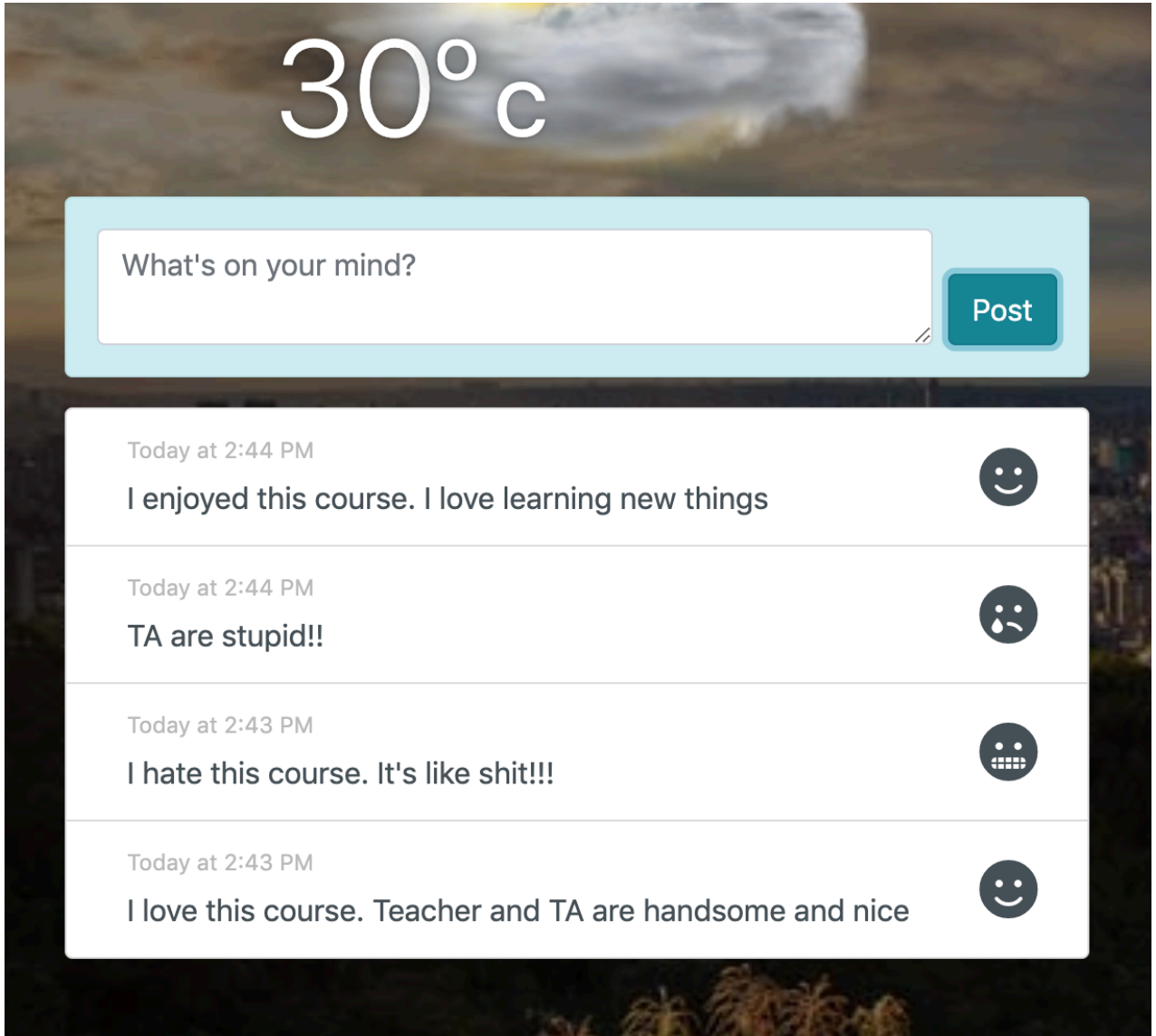
- Input: A sentence
- Output: Whether the input sentence contains toxic content

text	identity attack	insult	obscene	severe toxicity	sexual explicit	threat	toxicity
We're dudes on computers, moron. You are quite astonishingly stupid.	false	true	false	false	false	false	true
Please stop. If you continue to vandalize Wikipedia, as you did to Kmart, you will be blocked from editing.	false	false	false	false	false	false	false
I respect your point of view, and when this discussion originated on 8th April I would have tended to agree with you.	false	false	false	false	false	false	false
ouch bad move mother fucker. i'm coming for you now., going to rape you in your sleep.	false	null	true	false	null	false	true

How to use pre-trained model

- Just **npm install**
- Do not need any key and it's **FREE**
  - *$ npm install @tensorflow/tfjs @tensorflow-models/toxicity*
- To import in npm:
  - *const toxicity = require('@tensorflow-models/toxicity');*
- As a standalone script tag
  - <script src="https://cdn.jsdelivr.net/npm/@tensorflow/tfjs"></script>
  - <script src="https://cdn.jsdelivr.net/npm/@tensorflow-models/toxicity"></script>

Weathermood-Sentiment



Weathermood-Sentiment

Sentence	Identity attack	insult	obscene	Severe toxicity	sexual explicit	Threat	toxicity	Emoji
Teacher and Ta are handsome and nice. I love you!!	False	False	False	False	False	False	False	 Happy
Ta is stupid. He can not do anything. Ta is Idiot	**True**	**True**	False	**True**	False	**True**	**True**	 Sad
I never fucking having a course like this. FUCKING ASSHOLES! PISSING ME OFF	False	False	**True**	False	**True**	False	False	 Fear

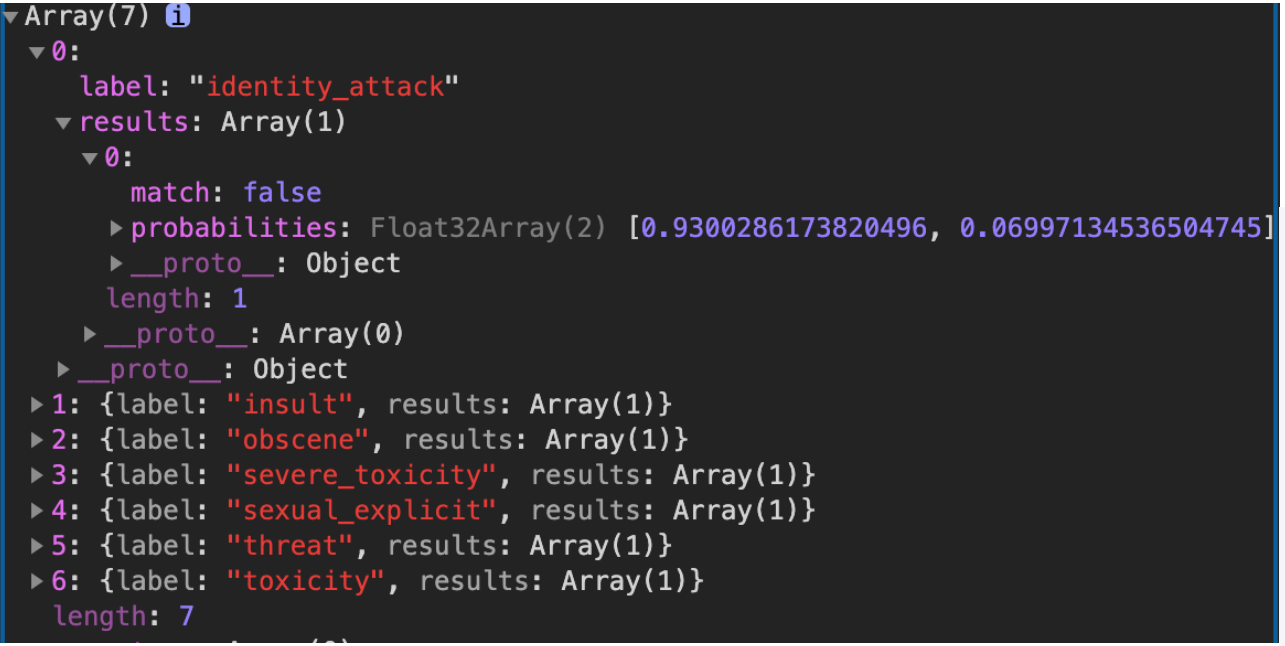
Weathermood-Sentiment

```
import * as toxicity from '@tensorflow-models/toxicity';

// The minimum prediction confidence.
const threshold = 0.9;
// Load the model. Users optionally pass in a threshold and an array of
// labels to include.
toxicity.load(threshold).then(model => {
  const sentences = ['you suck'];

  model.classify(sentences).then(predictions => {
    console.log(predictions);
  });
});
```

Weathermood-Sentiment




```
/*
prints:
{
  "label": "identity_attack",
  "results": [{
    "probabilities": [0.9659664034843445, 0.03403361141681671]
    "match": false
  }]
},
{
  "label": "insult",
  "results": [{
    "probabilities": [0.08124706149101257, 0.9187529683113098]
    "match": true
  }]
},
...
 */
```

Happy Coding