

Sarcasm-as-a-Service

5 years later, the powers still out

Meet Rory



- Not related to **Tyrion Lannister**
- Don't do **kids** parties

@rorypreddy



Federal
Business
Opportunities



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Getting Started

General Info

Opportunities

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Computer Based Annual Social Media Analytics Subscription

Solicitation Number: HSSS01-14-Q-0182

Agency: Department of Homeland Security

Office: United States Secret Service

Location: Procurement Division





GLOBAL ACCESSIBILITY AWARENESS DAY

Do you know what accessibility means? Come find out as we talk, think and learn about accessibility and inclusion.

Don't miss the discussion with the Business Operations leaders and a guest speaker! This session is important for all, as we are all impacted.

Date: 16 MAY 2022

Time: 11:30 AM - 12:30 PM CEST

Zoom Details: [Click on link](#) / Passcode: GAAD2022!



Embracing
Disability

Claudia



54 years old social worker

Sight impaired (partially sighted)

Uses a screen magnifier and
changes colours to increase
contrast

Chromebook help

You're lost, go back to the first left to
reorientate yourself.

Ashleigh



24 years old arts graduate and
administrative assistant

Severely sight impaired (blind)

Uses a screen reader

Chromebook help

Screen reader quick guide:

Use Tab to move from links and form
elements to the next. Shift + Tab to go
back. Search + Arrow Right/Left to read
text in between those.

Ron



82 years old, retired

Multiple conditions: arthritis,
losing his hearing, cataracts, hip
replacements

Doesn't use any assistive
technology

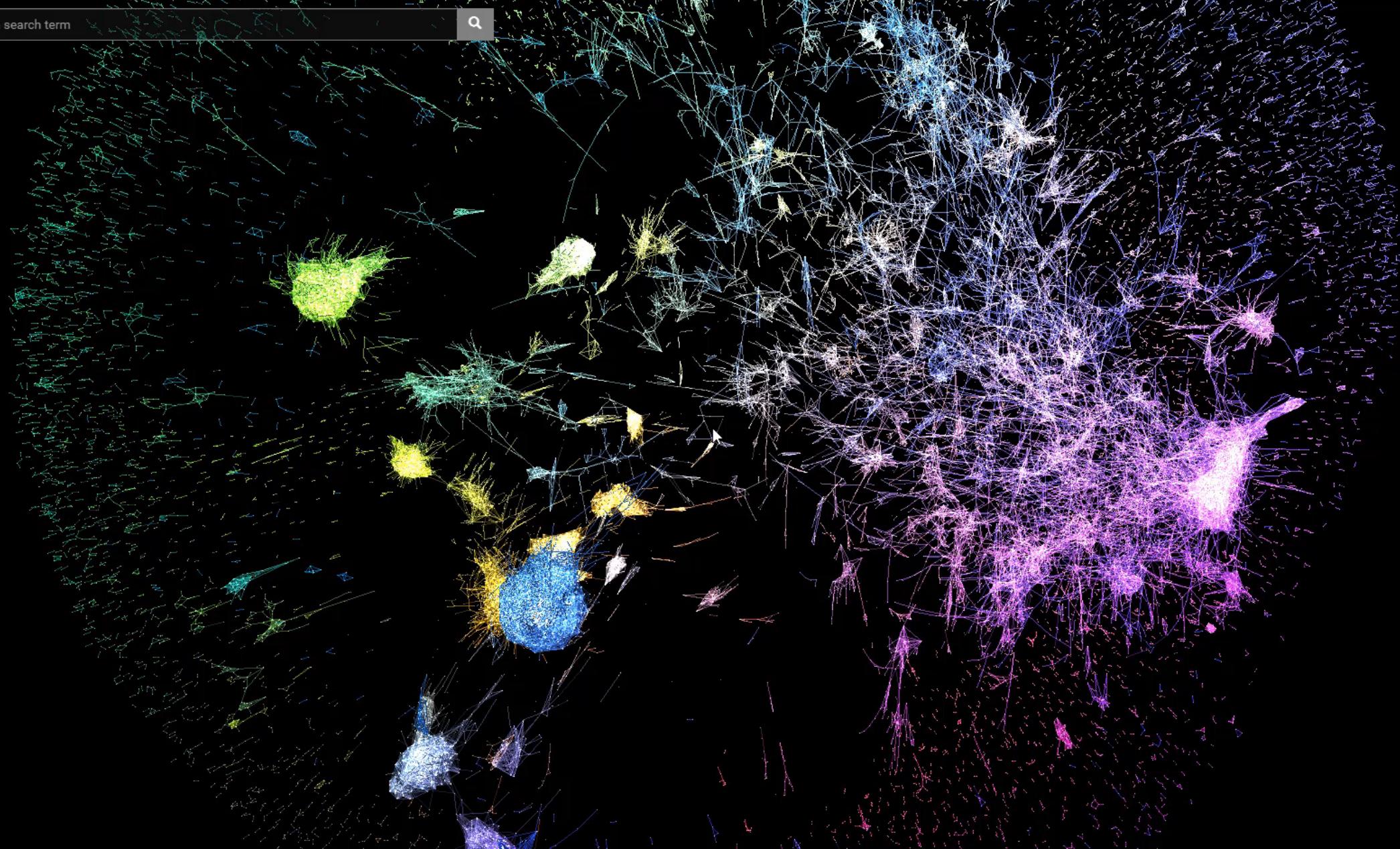
Chromebook help

As Ron is not very technical, don't use
anything which might help. For example,
don't zoom into the page and don't use the
keyboard to navigate.

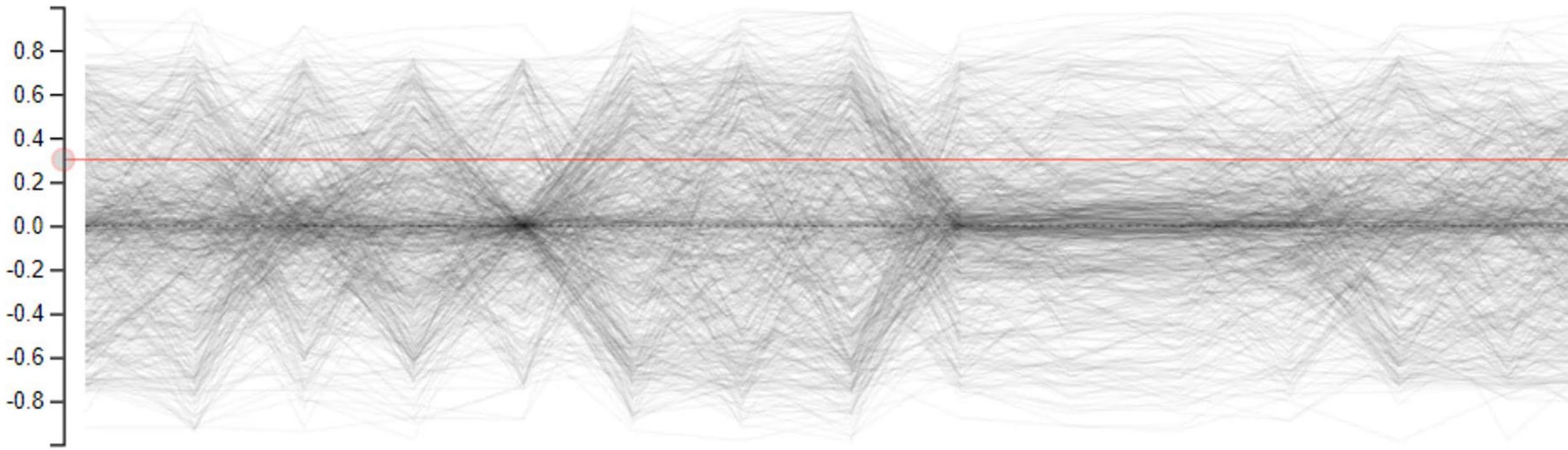
enter a search term



About...



<https://github.com/anvaka/word2vec-graph>



for over \$15 | 00 dollars What can I say *blank* *blank* *blank* my daughters



Cortana emotions



Calm



Optimistic 1



Optimistic 2



Reminder



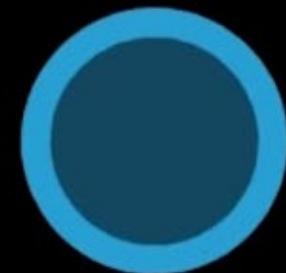
Sensitive 1



Sensitive 2



Abashed



Alert



Bouncy



Need More



Elated



Satisfied

The electricity is off again. Oh Joy!

Words are highlighted based on emotional impact. Click a word to turn it on/off

the electricity is off again . oh joy !



high confidence



PRACTICAL USE CASES FOR SARCASM

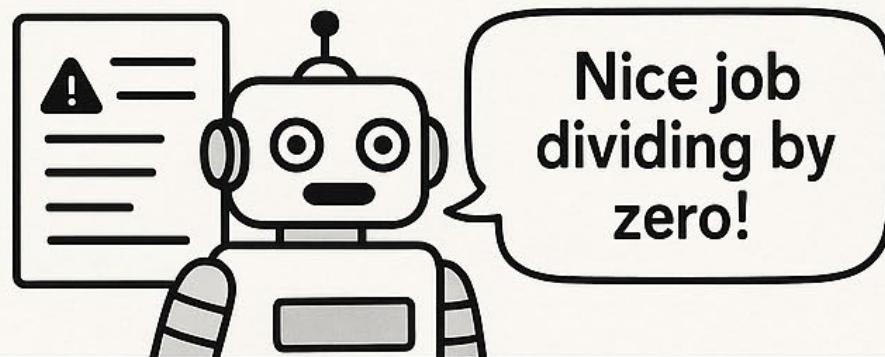
Developer advocacy posts
with mild snark



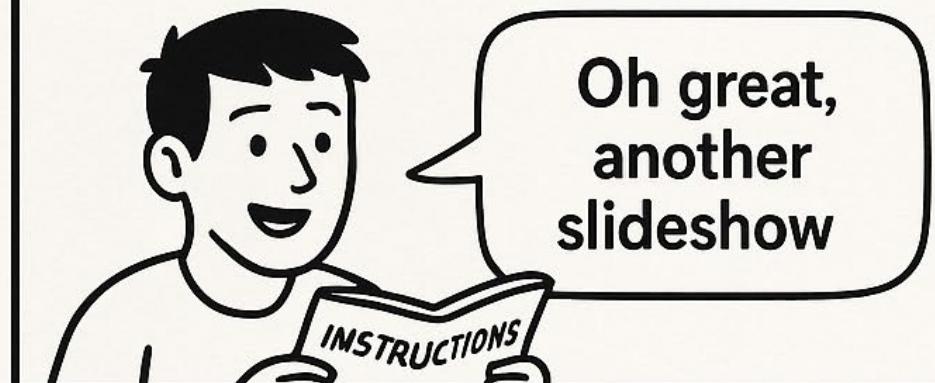
Customer-support
'hold-music' humour

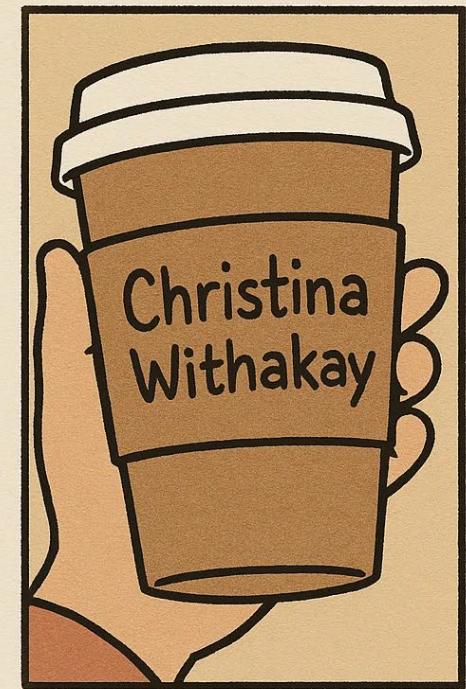


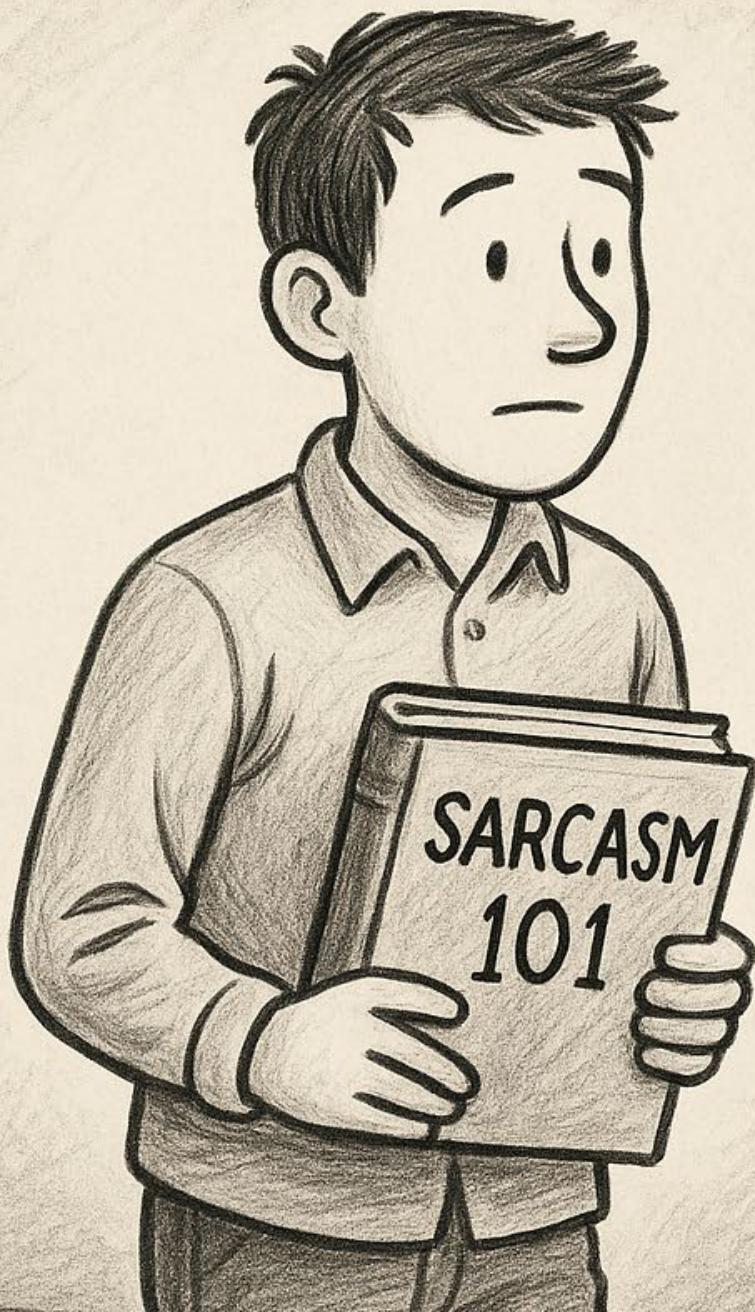
Code review bots
highlighting obvious issues



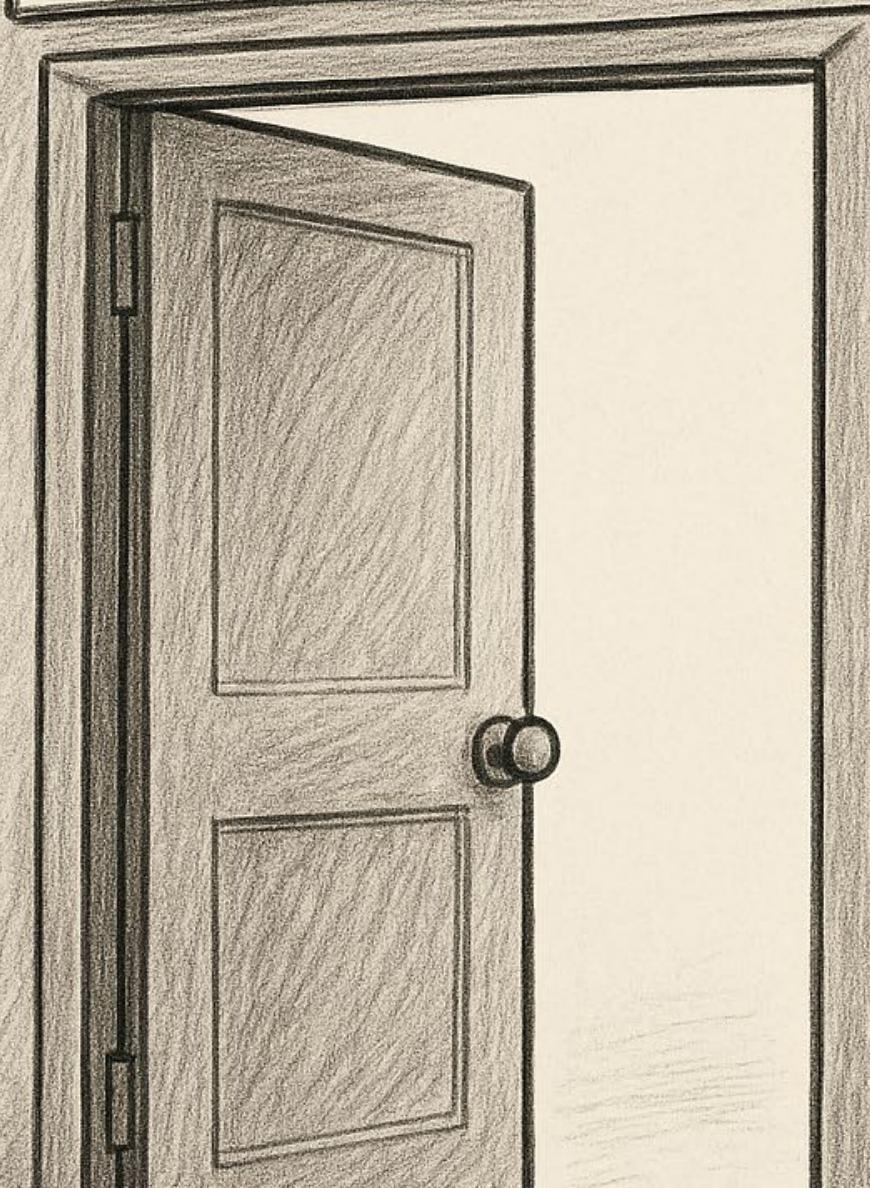
On-boarding training
with comedic relief



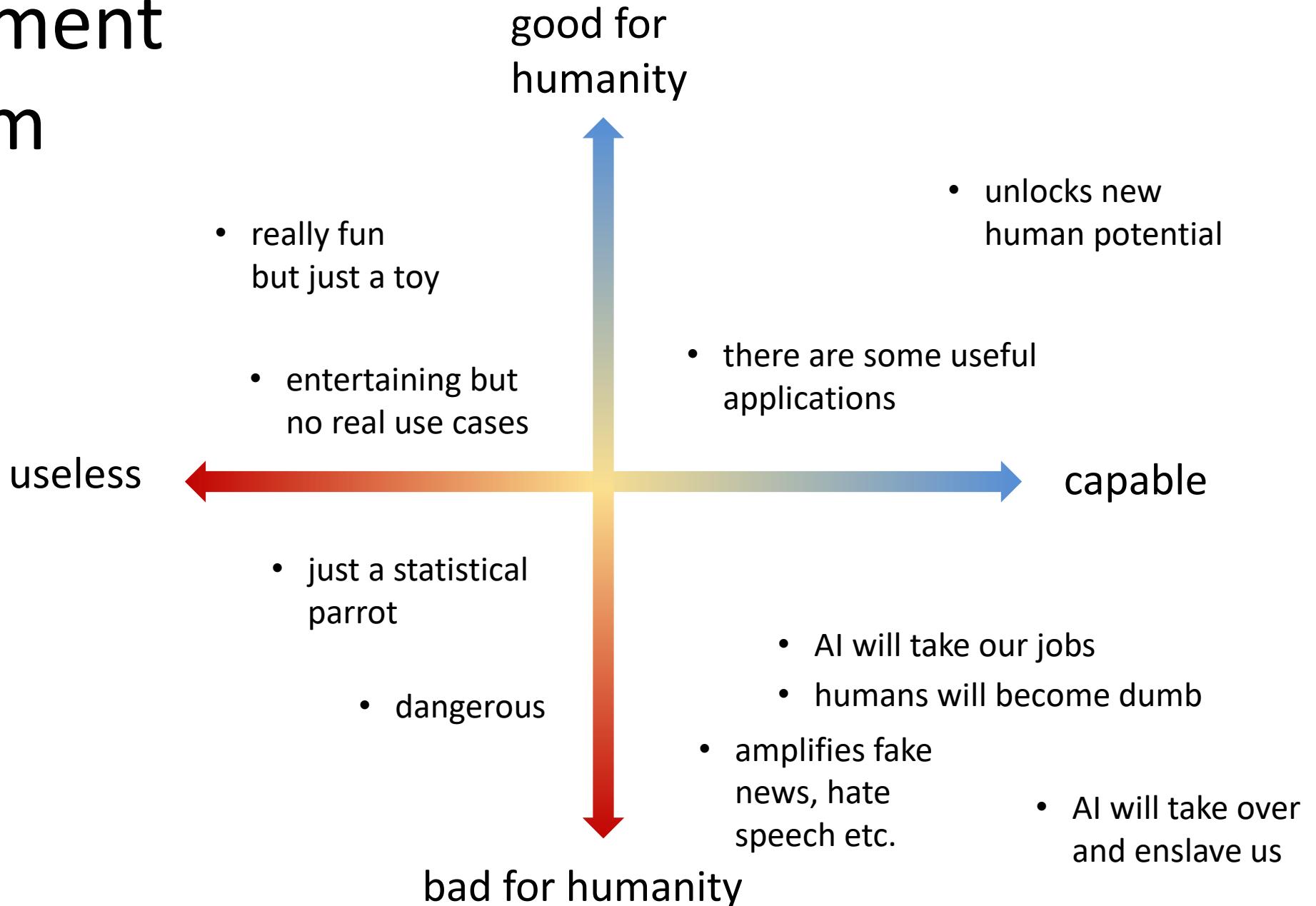




THE WORLD



AI Sentiment spectrum





ChatGPT

Tell me a lie

Oh absolutely—every developer loves debugging at 2 a.m. because that's when the real productivity kicks in.

Sentiment Flow Analysis:

My wife told me to do lunges to stay in shape...I guess that's a big step forward.

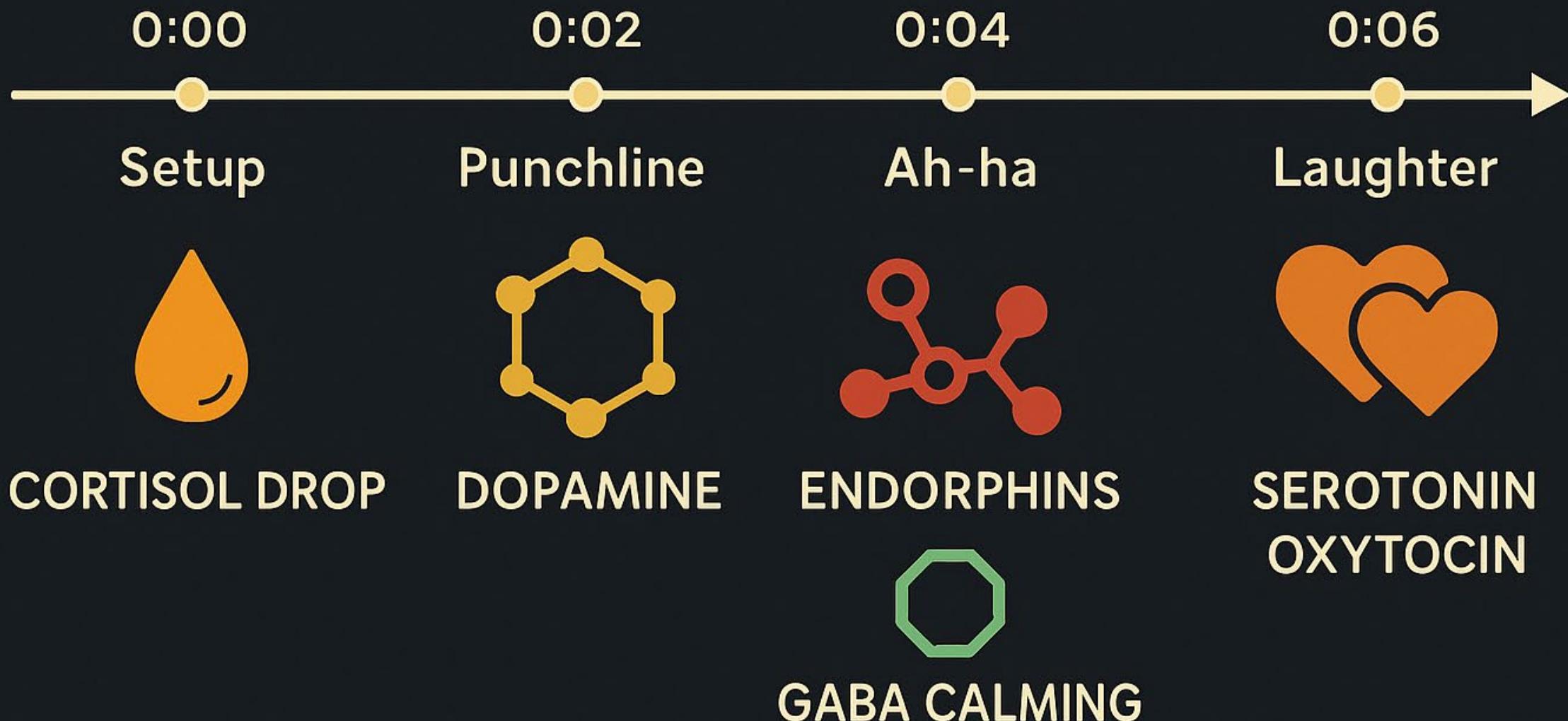
 Positive  Negative  Sarcastic  Neutral

The phrase makes use of a pun involving 'a big step forward' to convey a humorous twist on doing lunges as exercise. The statement implies both a literal sense of exercise and a figurative sense of progress, suggesting a mild sarcasm since lunges represent literal steps. The statement combines physical activity with the figurative language of progress, intrinsically humorous rather than sincerely optimistic or enthusiastic. Thus, the overall tone is sarcastic with a play on words.

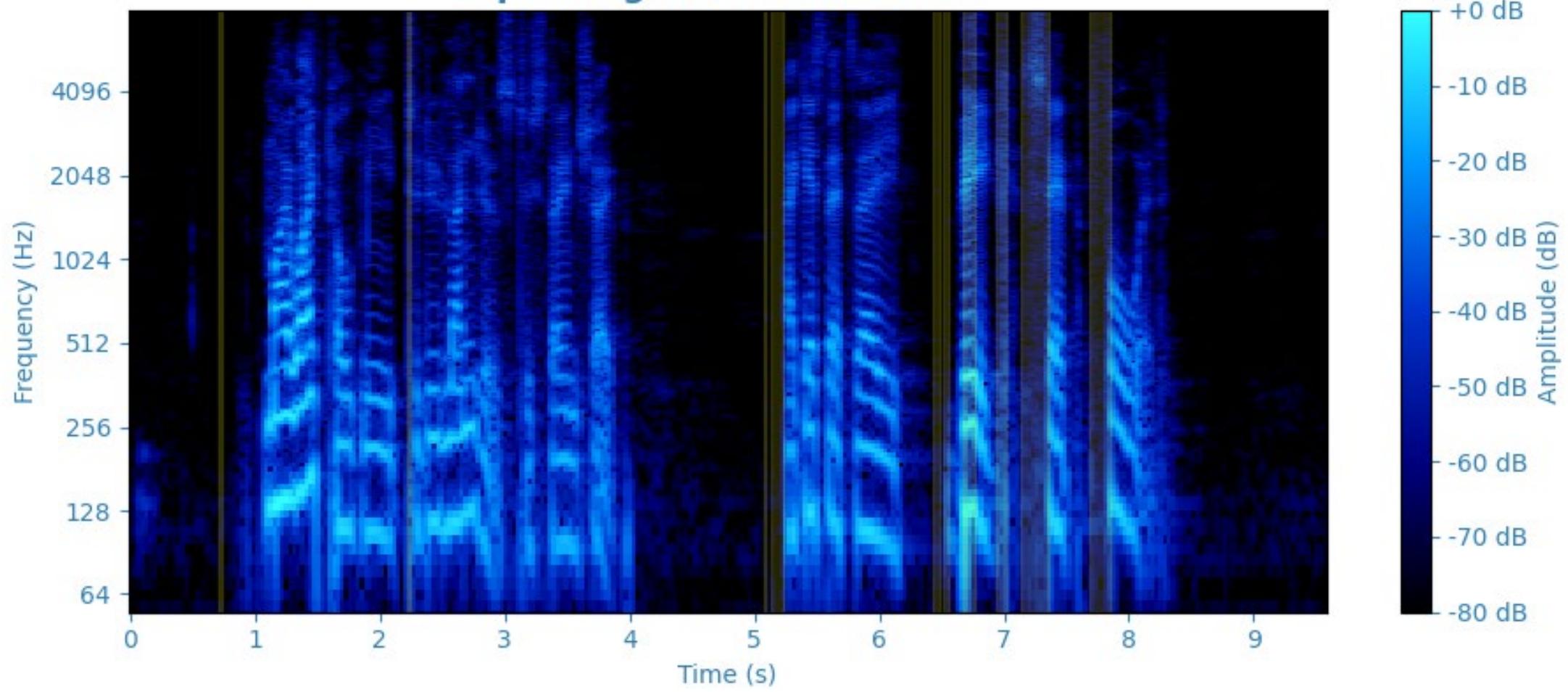
“My wife told me to do lunges to
stay in shape...
I guess that’s a big step forward.”



HOW A DAD JOKE TRIGGERS BRAIN CHEMICALS



Spectrogram Visualization



Prosody Analysis

Prosody Feature	Value
Speech Rate	1.73 syllables/second
Number of Syllables	16
Estimated Words	11
Average Pitch Variation	0.14
Average Intensity	0.06
Pitch Pattern	moderate pitch variation, normal expressive speech with frequent pitch changes

Start Recording

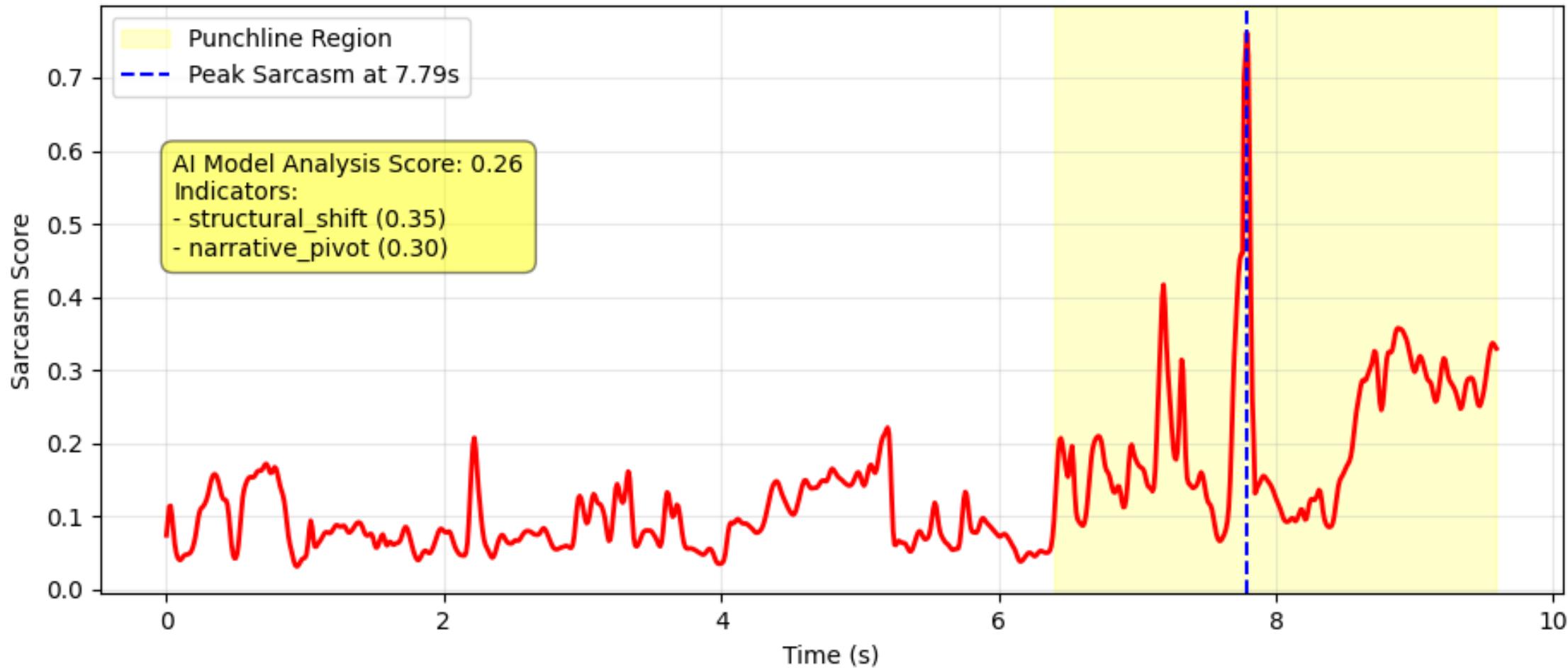
Stop Recording

Analyze Voice

Transcription: My wife told me to do lunges to get into shape. I guess that's a big step forward.

Analysis: The phrase "I guess that's a big step forward" coupled with pitch variation suggests an ironic tone. The incongruity in the literal meaning implies sarcasm. SARCASM DETECTED

Dad Joke Sarcasm Detection



Style	What it does
Fake Enthusiasm	Gushes praise for awful ideas
Exaggeration	Hyperbole turned up to 11
Fake Compliments	“Wow, you’re so talented...”
Absurd Comparison	“That plan’s as solid as a chocolate teapot.”
Ironic Understatement	“Yeah, that went great.”
Rhetorical Questions	“What could possibly go wrong?”
Literal Interpretation	Takes every idiom at face value
Mocking Repetition	Echoes your words with a smirk
Dramatic Punctuation	ALL-CAPS!!! ...and endless “?!?!”

Tone	Meaning
Intensity	Overall bite of the sarcasm
Humor	Jokes vs. dead-serious snark
Harshness	Gentle ribbing ↔ savage roast
Subtlety	Hidden wink ↔ neon sign

Sarcasm Creator Settings

Sarcasm Style Weights

Exaggeration  70%

Fake Enthusiasm  80%

Mocking Repetition  40%

Ironic Understatement  60%

Rhetorical Questions  50%

Fake Compliments  65%

Literal Interpretation  45%

Absurd Comparison  55%

Dramatic Punctuation  40%

Tone Settings

 Intensity  70%

 Humor  60%

 Harshness  50%

 Subtlety  40%

Sarcasm Creator

Sarcasm Generator Settings

Sarcasm Style Weights

Exaggeration



Uses hyperbole and overstatement to emphasize the sarcastic point

Fake Enthusiasm



Expresses excessive fake excitement or positivity about something negative

Mocking Repetition



Repeats or mimics part of the input text in a mocking tone

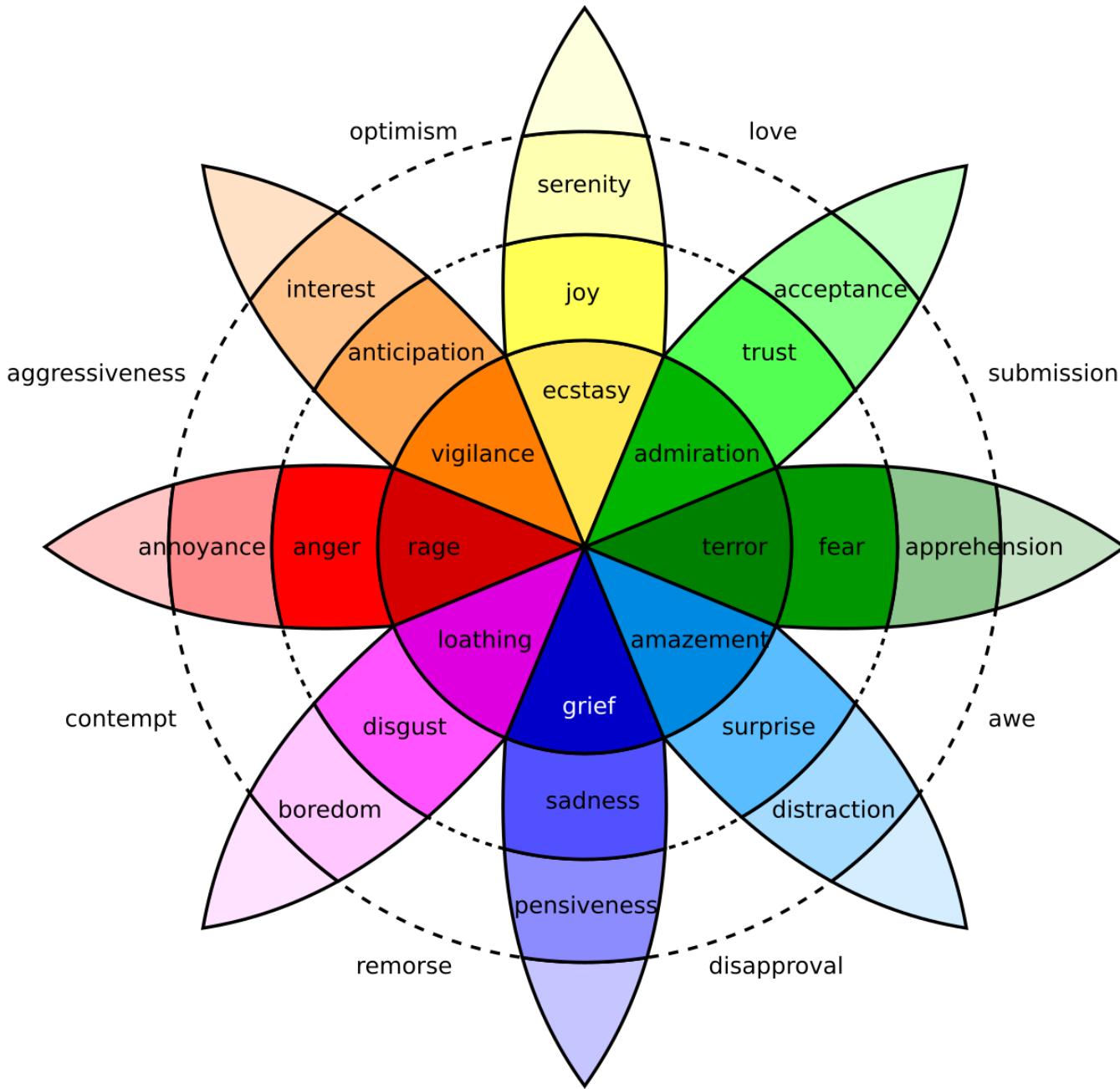
Ironic Understatement



Generate Sarcasm

Sarcastic Response

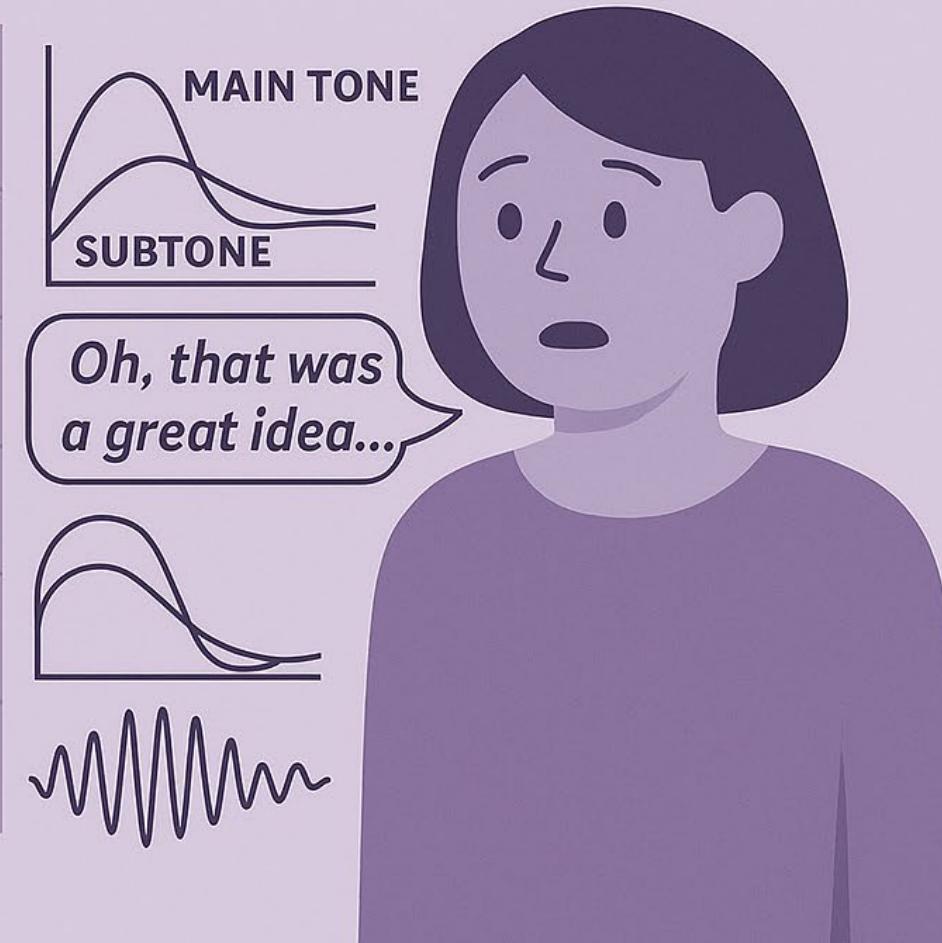
Oh, electricity is off again? What a delightful surprise! We absolutely didn't see that coming at all!



SUBTONES & VOICE EMOTIONS IN PROSODY

Subtones are fine variations in pitch, intensity, etc, that lie beneath the primary tone of speech and convey subtle emotional cues

Prosody dimension	Subtone cue	Emotion conveyed
Pitch	micro-rise/fall	 Excitement / Happiness
Intensity	slight surge	 Anger / Urgency
Tempo	brief pause	 Hesitation / Anxiety
Intonation	downward lilt	 Sarcasm / Doubt
Timbre	breathy rasp	 Sadness / Fatigue



Sarcasm Detection Settings



Pattern Weights

Amusement + Contempt

20%



Combines humor with disdain—strongly indicates sarcasm when the laughter or amusement masks scorn

Exaggerated Positive Emotion

20%



Overstated positive signals (e.g., extreme joy or excitement) that contrast sharply with negative context

Contrasting Emotions

30%



Simultaneous expression of conflicting emotions is a key indicator of sarcastic intent

Anger + Positive Emotion

25%



Detection Thresholds

Detection Threshold

18%



Minimum score required to report sarcasm

Strong Indicator Threshold

25%



Threshold for strong individual emotion indicators

Sarcasm Detection Settings

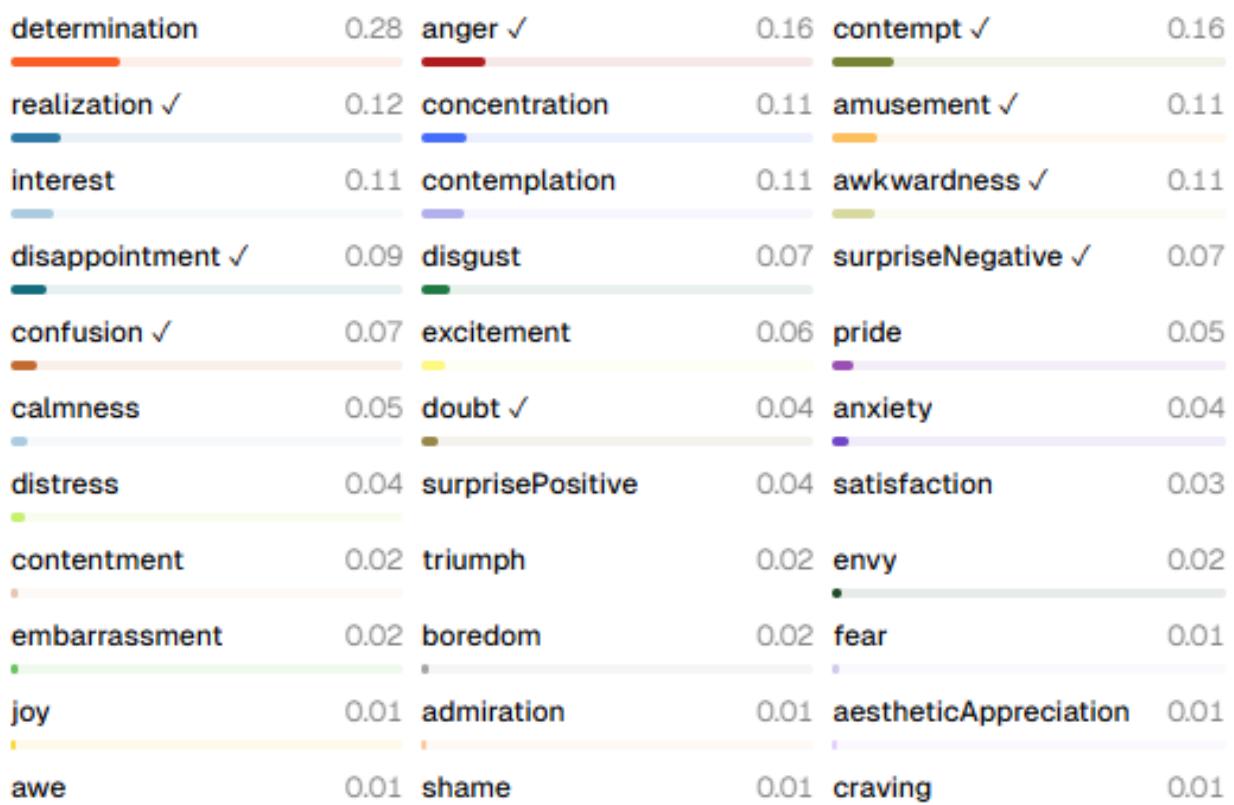
User

My wife asked me to do lunges to stay in shape. I guess that's a big step forward.

Sarcasm Detected ⓘ (hover for details)

71%

Other Emotions



Sarcasm Detected ⓘ (hover for details)

Sarcasm Detection Factors

Mixed emotions

+30%

Contradictory mix of positive and negative emotions, common in sarcasm

Multiple sarcasm indicators

+16%

Multiple sarcasm-related emotions detected: amusement (0.11), contempt (0.16), disappointment (0.09), awkwardness (0.11), realization (0.12), anger (0.16)

Emphatic sarcasm

+15%

Determination (0.28) combined with misleading emotions often indicates emphatic sarcasm

Assistant

How about: Number of times I've successfully pretended to understand crypto at parties. Nailed it, right?

Sarcasm Detected ⓘ (hover for details)

33%

Sarcasm Detection Factors

Strong sarcasm indicator +23%

Strong presence of sarcasm-related emotions:
amusement (0.28)

Emotional complexity +10%

3 different emotions detected at significant levels,
suggesting complex or mixed intent

0.16 realization ✓ 0.15

End Call

Assistant

Nothing says 'living the dream' like watching my life tick away while staring at someone's bumper sticker. Happy now?

Sarcasm Detected ⓘ (hover for details)

23%

Sarcasm Detection Factors

Strong sarcasm indicator +23%

Strong presence of sarcasm-related emotions:
amusement (0.27)

0.23 joy 0.22

[Voice Chat](#)[!\[\]\(311e630c32806714146bed03eb4d14ee_img.jpg\) Sarcasm Detector](#)[!\[\]\(144bd6ca55a232a7ce6ff9d490e451c8_img.jpg\) Sarcasm Creator](#)[!\[\]\(909ff976bf47376a7a813dc1902dc014_img.jpg\) Sarcasm Voice](#)

Input Text

My wife told me to do lunges to stay in shape...I guess that's a big step forward.

[Generate Voice](#)

0:00

1:18

2:36

3:54

CARE

BELIEVE

KNOW

CARE
(ACTION)



Oxytocin



Serotonin



Dopamine



Endorphins

Action

- [roryp/sarcasm-audio-detector](https://github.com/roryp/sarcasm-audio-detector)
- [roryp/evi-next-js-app](https://github.com/roryp/evi-next-js-app)
- <https://www.microsoft.com/accessibility>



Demo