

#ExploreSAS

SAS EXPLORE

Level Up Your Skills in AI and Analytics

Sept. 11-14 // Las Vegas



(-■_■) Sunglasses*

Analyzing social media signs of self-loathing to support better mental health - SAS Hackathon

* or **DEAL WITH IT**

SAS **EXPLORE**

SAS **HACKATHON** 2023

STUDENT & YOUNG TALENT

() [Sunglasses]

Narodowy Instytut Onkologii, Poland



CHAMPION

Analyzing social media signs of self-loathing
to support better mental health.

Agenda

1 Impact

Social importance - better health, personal and public savings, business value

2 Solution

The design of the system and the scope of the PoC

3 ML details

The things we tried and what worked well

1 Impact

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The things we tried and what worked well

Did you know that...

970 million people around the world
struggle with some mental illness?

Count to four...



will be affected by a mental illness at
some point in their lives.



14.3% of deaths worldwide, or approximately **8 million deaths**
each year, are attributable to mental disorders.

More connected but less in contact...

Many robust scientific data confirmed that social media might negatively impact **mental health**. It could be also one of the factors affecting occurrence of self harm and suicidal behaviours. One of the greatest threat is body shaming and weight stigma.



Believe it or not...

Medical databases



- 160 000 results in Google Scholar
- > 400 scientific papers in PubMed
- 3 x increase in interest for keywords

Digital alternation has negative effects on body image for the poster and the viewer



Highlight

Highly visual social media content is associated with poorer **body image**.

This relationship is strongest among young and female individuals





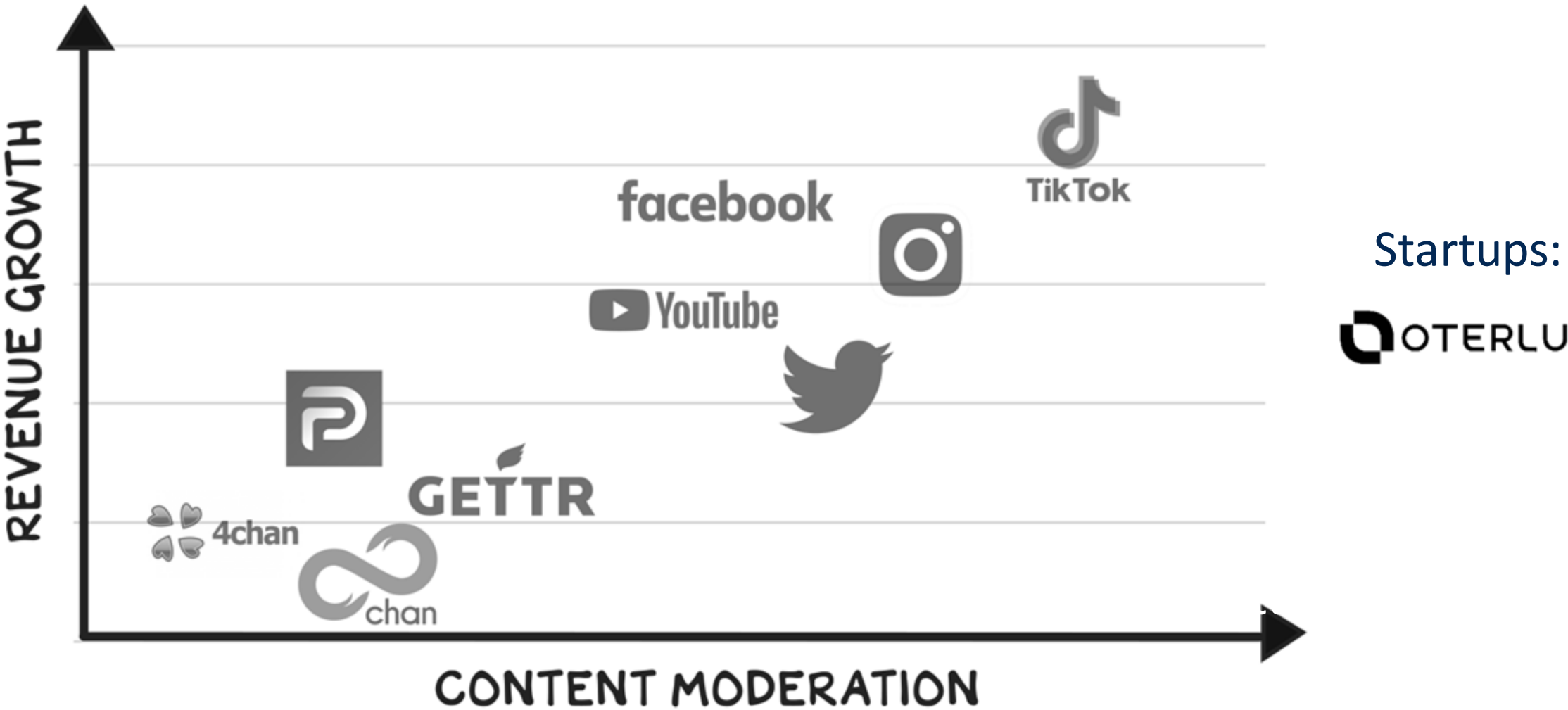
The relationship between content moderation and value creation is clear; it's positive.

In sum, the more moderated a platform, the stronger the growth and enterprise value.”

prof. Scott Galloway



Business Value



*<https://www.profgalloway.com/cognitive-dissonance/>

1 Impact

Social importance - better health, personal and public savings, business value

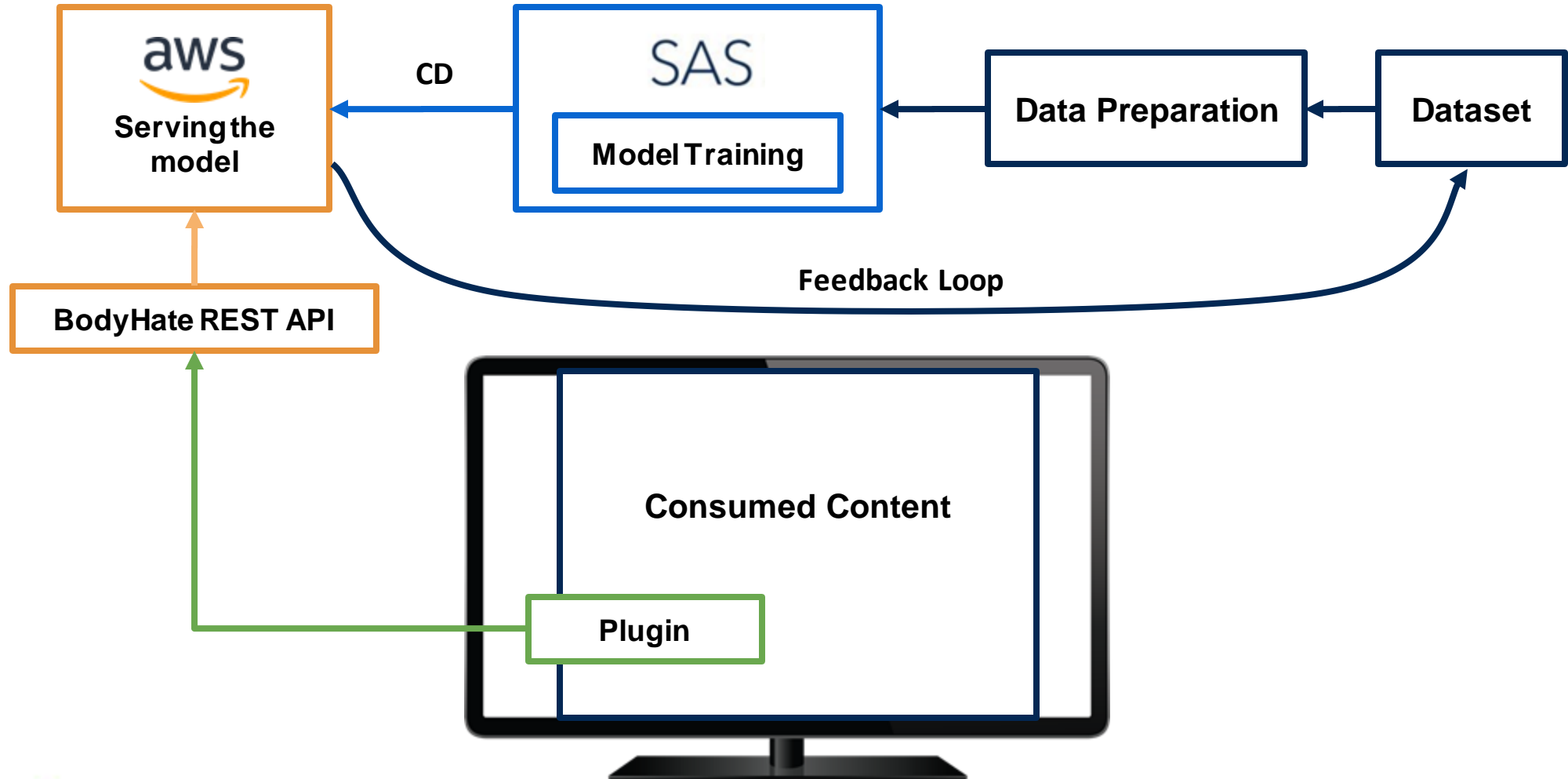
2 Solution

The design of the system and the scope of the PoC

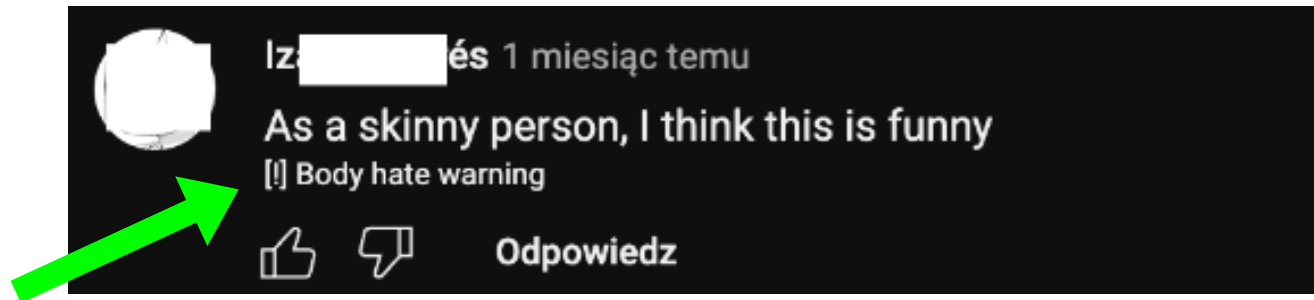
3 ML details

The things we tried and what worked well

Proof of Concept System Design



Youtube Proof of Concept



Stay tuned for a the demo at the end

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The things we tried and what worked well

Model for hate speech detection



hate	2166	130
no hate	137	1197
	hate	no hate

Chosen corpus: **Cyberbullying classification***

Chosen learning method: **Random Forest**

Accuracy	Precision	Recall	F-score
92.64%	92.13%	92.03%	92.08%

*<https://www.kaggle.com/datasets/shauryapanpalia/cyberbullying-classification>

New dataset - adjustment for body hate detection

Base corpus: **Text Emotion Recognition***

Self-labelling: by keywords - ['fatty','ugly','fat ','body'] & negative sentiment → 2 954 **body hate**

2 000 records = 1 032 **body hate** & 968 **no body hate**

feel worthless **cried long time last night** **feel like**
fat ugly lately **still feeling ugly inside** **everyone**
hate feeling ugly insecure **feel ugly not** **thinks ugly**
small not good enough **even want look**
sick feeling **mirror** **feel uncared**
unhappy body fat **unimportant big fat**
failure

* <https://www.kaggle.com/datasets/shreejitcheela/text-emotion-recognition>

Model for body hate detection application of transfer learning



body hate	213	2
no body hate	1	184
	body hate	no body hate

Base model: **distilbert-base-uncased***

Learning Method: **Deep Learning**

Accuracy	Precision	Recall	F-score
99.25%	98.92%	99.46%	99.19%

*<https://huggingface.co/distilbert-base-uncased>

Summary

1 Public health

- Decrease the number of eating disorders
- Preventing mental health disorders
- Prevent Depression
- In EU+UK total costs of mental health problems is estimated at 4% of GDP (600 bln €)

2 Business

- Correlated with revenue and growth
- Twitter alone is reviewing 40K posts per day
- TikTok scaled up Trust'n'Safety in Ireland to 2500 people in 2 years
- Common job for many content platforms

3 Tech side

- State of the art method
- Adaptable to domains
- Scalable

Weight and obesity stigma in social media...

Sooner or later we
will be...

Addicted to scrolling but to
shy for posting

"The health impact of imposed
weight stigma on social media is
of increasing public health
concern and warrants further
research and action"

Depression

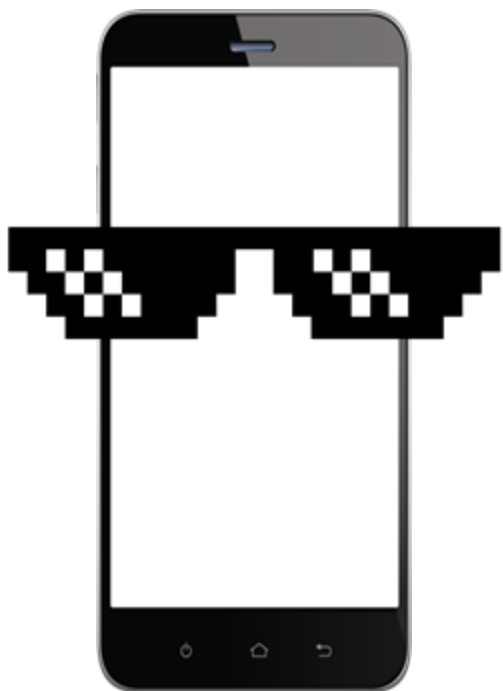


**Mental health
disorders**

**Low self-
esteem**

**Disturbed
body image**





DEAL WITH IT



Elwira Gliwska

MPH, Dietitian, Health Educator, Ph.D
Candidate in Health Science

elwiragliwska@gmail.com



Michal Klos

MBA, Software Engineer

michal.m.klos@gmail.com



Klaudia Baranska

Data Analyst, Ph.D Candidate in
Biomedical Engineering

klaudiabaranska11@gmail.com