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**GPTGONE**

**Pitch**

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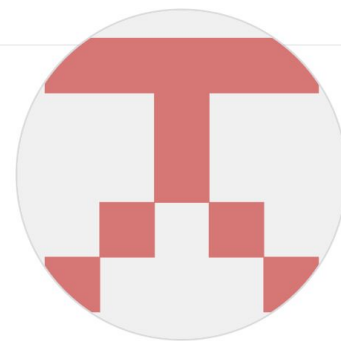
## OUR GROUP

Our team is comprised of the brightest minds from NUS and SUTD who share a deep passion for building a better world through design.

With our extensive training in Artificial Intelligence and Software Engineering, we have the skills and expertise to create innovative solutions such as GPTGone.



Daniel  
ffeew



cymstx



isabelteo



zywail

>>>>

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# MAIN CONCERNS BROUGHT BY CHATGPT

The sophisticated and natural responses of ChatGPT are hard to detect. With the explosion of users, some have put the tool to nefarious use. This has raised concerns in the area of:

**DISINFORMATION DETECTION**

**SPAM DETECTION**

**PLAGIARISM DETECTION**

## ChatGPT Sprints to One Million Users

Time it took for selected online services to reach one million users



\* one million backers \*\* one million nights booked \*\*\* one million downloads  
Source: Company announcements via Business Insider/LinkedIn

# PROBLEM VS. SOLUTION



## PROBLEM

ChatGPT's application has caused concern for causing disinformation or spam in forums

GPTGone provides a solution to detect short-text content, which some existing detectors (e.g. from OpenAI) cannot support due to minimum character count requirement

## SOLUTION



# ARTIFICIAL INTELLIGENCE (AI)

# PROBLEM VS. SOLUTION



## PROBLEM

ChatGPT's application in academic plagiarism is a pressing issue that affects Universities worldwide.

GPTGone provides a solution for universities to enforce anti-plagiarism rules.

## SOLUTION

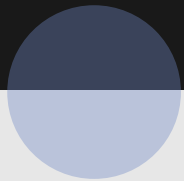


# ARTIFICIAL INTELLIGENCE (AI)

02.

## MODEL RESULTS

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# 11 MODELS

# ~20+ EXPERIMENTS

COVERING DIFFERENT EMBEDDING CHOICES AND HYPERPARAMETER CHOICES

AL  
EN  
AD

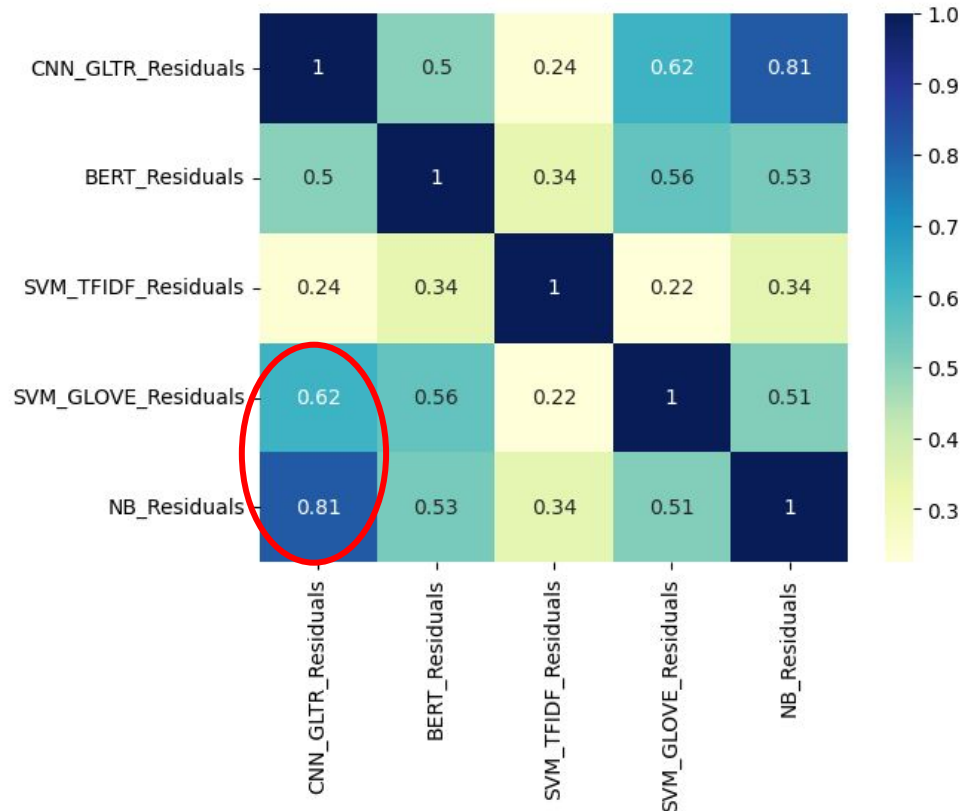


**03.**

## **WEIGHTED AVERAGE ENSEMBLE RESULTS**

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# MODEL SELECTION: DIVERSITY CRITERIA



# MODEL SELECTION: PERFORMANCE CRITERIA

HOLDOUT PERFORMANCE	SVM-TFIDF	NAIVE BAYES	BERT	CNN	SVM-GLOVE
ACCURACY	0.96	0.92	0.91	0.83	0.65
ROC-AUC	0.96	0.92	0.91	0.83	0.65
F1 SCORE	0.96	0.92	0.90	0.84	0.61

# FINAL SELECTED MODELS WITH GRID-SEARCHED WEIGHTS



**BERT**

Weighted at 0.25

**CNN WITH GLTR  
FEATURES**

Weighted at 0.25

**SVM-TFIDF**

Weighted at 0.5

ARTIFICIAL  
INTELLIGENCE  
(AI)



ARTIFICIAL  
INTELLIGENCE  
[AI]

96%

ACCURACY, ROC-AUC AND F1 FOR FINAL ENSEMBLE  
ON HOLDOUT



[AI]



04.



## EXISTING TOOLS AND WHERE THEY FALL SHORT

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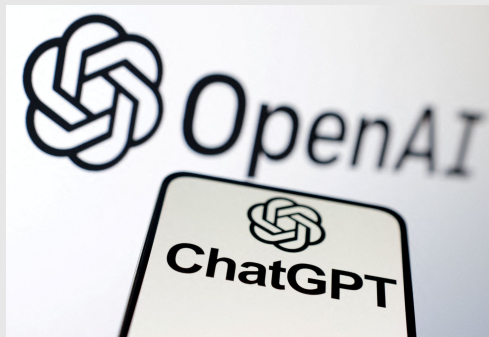
/CAN

# COMPETITORS

GPTZero

The World's **#1 AI Detector** with  
over 1 Million Users

GPTZERO



OPEN AI'S TEXT CLASSIFIER

Benchmark for ChatGPT detection solutions



## **GPTGONE**

We use an ensemble of 3 models with different architectures in order to classify text



## **OPENAI'S TEXT CLASSIFIER**

Consists of only neural networks, which can be inaccurate outside the training data





## **GPTGONE**

Supports any length



## **OPENAI'S TEXT CLASSIFIER**

Minimum 1000 characters

# COMPARISON TO OPEN AI ON SAMPLE DATASET

<b>HOLDOUT PERFORMANCE (~500 SAMPLES)</b>	<b>ENSEMBLE</b>	<b>OPEN AI</b>
<b>ACCURACY</b>	0.94	0.68
<b>ROC-AUC</b>	0.94	0.67
<b>F1 SCORE</b>	0.95	0.74



## GPTGONE

We highlight AI-written parts. In addition, we share our model prediction probabilities and allow users to adjust model sensitivity



## GPTZERO

Provides perplexity scores, burstiness scores, and highlighting of AI-written parts in text as part of model explainability

# COMPARISON TO GPTZERO ON SAMPLE DATASET

As GPTZero API requires payment, we compared on a smaller sample of 10 data-points.

<b>HOLDOUT PERFORMANCE (~10 SAMPLES)</b>	<b>ENSEMBLE</b>	<b>GPT-ZERO</b>
<b>HUMAN</b>	All correct	2 out of 5 wrong
<b>AI</b>	All correct	1 out of 5 wrong

# GPTGONE VS GPTZERO ON AI EXAMPLE

**Your text is likely to be written entirely by a human**

The nature of AI-generated content is changing constantly. While we build more robust models for GPTZero, we recommend that educators take these results as one of many pieces in a holistic assessment of student work.

Text to analyze

The Apollo Guidance Computer (AGC) used by NASA's Apollo missions had the computing power of a calculator by today's standards. However, it was a groundbreaking technology at that time and was specially designed for the task of lunar exploration. The AGC was a highly specialized computer that was specifically programmed to perform the critical functions necessary to get the astronauts to the moon and back safely. It was designed to handle calculations related to navigation, velocity, altitude, and other vital data necessary for the spacecraft to operate effectively during the missions. Moreover, the AGC was highly reliable and had several redundant systems, which ensured that it continued to function even in case of failures. It was also designed to withstand extreme temperature variations and radiation exposure, making it extremely robust. In summary, the AGC might have had far less computing power compared to modern-day computers, but it was highly specialized, reliable, and robust. And with the support of highly skilled engineers and scientists, it played a critical role in getting humans to and from the moon.

Check if written by AI

Reset

AI ⓘ

100%

The text is highly likely written by AI

Paraphrased ⓘ

23.6%

The text is unlikely written by AI and paraphrased

The Apollo Guidance Computer (AGC) used by NASA's Apollo missions had the computing power of a calculator by today's standards. However, it was a groundbreaking technology at that time and was specially designed for the task of lunar exploration. The AGC was a highly specialized computer that was specifically programmed to perform the critical functions necessary to get the astronauts to the moon and back safely. It was designed to handle calculations related to navigation, velocity, altitude, and other vital data necessary for the spacecraft to operate effectively during the missions. Moreover, the AGC was highly reliable and had several redundant systems, which ensured that it continued to function even in case of

# GPTGONE VS GPTZERO ON HUMAN EXAMPLE

Text to analyze

The book Guns, Germs, and Steel by Jared Diamond outlined this pretty well. Animals have to have a certain set of characteristics in order to be domesticated. When you add up all these characteristics there are few animals that fit the bill.

1. Their diet must be different than that of humans or they must be able to live off things that humans are unwilling to eat. Animals that eat the same food as us and won't be satisfied with scraps won't work. An animal will provide no benefit to humans if they consume hard to obtain food. This is why most of our domesticated animals are either omnivores or herbivores. Obligate carnivores were typically too much trouble for our ancestors to bother with.

2. The animals must mature very fast. There's no point in trying to domesticate an elephant that you have to take care of for 10 years before it can do anything for you. Plus, it would take years to be able to grow their population.

Check if written by AI

Reset

AI ⓘ

0%

Paraphrased ⓘ

0.27%

The text is most likely written by a human

The text is highly unlikely written by AI and paraphrased

## Your text is likely to be written entirely by AI

The nature of AI-generated content is changing constantly. While we build more robust models for GPTZero, we recommend that educators take these results as one of many pieces in a holistic assessment of student work.

The book Guns, Germs, and Steel by Jared Diamond outlined this pretty well.

Animals have to have a certain set of characteristics in order to be domesticated.

When you add up all these characteristics there are few animals that fit the bill.

1.



05.



## OUR UNIQUE SELLING POINTS

What we offer that both our competitors do not offer

/CAN

# TARGETING BY-PASSERS: CYRILLIC CHARACTER DETECTION

Text to analyze

экономиа3r4

Check if written by AI

Reset

The text contains cyrillic characters, which is not supported by GPTGone



# PARAPHRASE DETECTION

AI

100.0%

The text is highly likely written by AI

Paraphrased

50.0%

The text is may be written by AI and paraphrased

## Text analysis

In cardinality estimation, uniform data refers to data that is evenly distributed across a range of values. In other words, each value in the range is equally likely to occur, and there are no significant peaks or valleys in the distribution.

AI

When estimating the cardinality of a query, the database system uses statistical models to make predictions about the number of rows that will be returned. These models are based on assumptions about the distribution of the data, such as whether the data is uniform or skewed.

AI

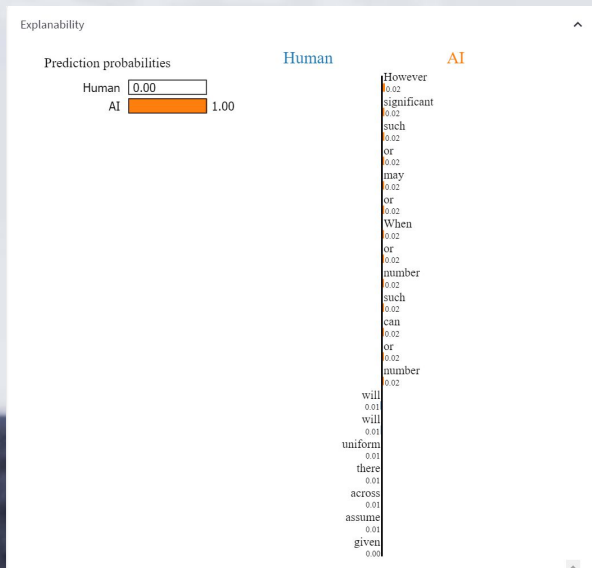
If the data is uniform, the database system can use a simple statistical model, such as the uniform distribution or the equi-depth histogram, to estimate the cardinality. These models assume that each value in the range is equally likely to occur, and use this assumption to make predictions about the number of rows that will match a given query.

AI

However, if the data is not uniform, such as if it is skewed towards certain values or if there are outliers, then more complex statistical models may be required to accurately estimate the cardinality. In such cases, the database system may use techniques such as multi-dimensional histograms or machine learning algorithms to estimate the cardinality based on the distribution of the data.

AI

# EXPLAINABILITY



☒ Generate explanation ?

Number of features ?

20

10

100

## Text with highlighted words

In cardinality estimation, uniform data refers to data that is evenly distributed across a range of values. In other words, each value in the range is equally likely to occur, and there are no significant peaks or valleys in the distribution.

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# MULTI VARIATIONS



Text to analyze

The k-means clustering concept sounds pretty great, right? It's simple to understand, relatively easy to implement, and can be applied in quite a number of use cases. But there are certain drawbacks and limitations that we need to be aware of.

Let's take the same income-expenditure example we saw above. The k-means algorithm seems to be working pretty well, right? Hold on – if you look closely, you will notice that all the clusters created have a circular shape. This is because the centroids of the clusters are updated iteratively using the mean value.

Now, consider the following example where the distribution of points is not in a circular form. What do you think will happen if we use k-means clustering on this data? It would still attempt to group the data points in a circular fashion. That's not great! k-means fails to identify the right clusters:

Check if written by AI

Reset

Variation



Essay



Essay

Short-Text



## STUDENTS

Plagiarism Prevention



## EDUCATORS

Plagiarism Detection

## ONLINE FORUMS/SOCIAL MEDIA

Disinformation and Spam detection



**06.**

**DEMO & CONCLUSION**

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/[AI]

# QUESTIONS?

