LatexAI

Our Background

Warsaw University of Technology

- Graduates and students of WUT
- Diverse backgrounds: DS, ML, WebDev, Business
- Members of Golem AI Association

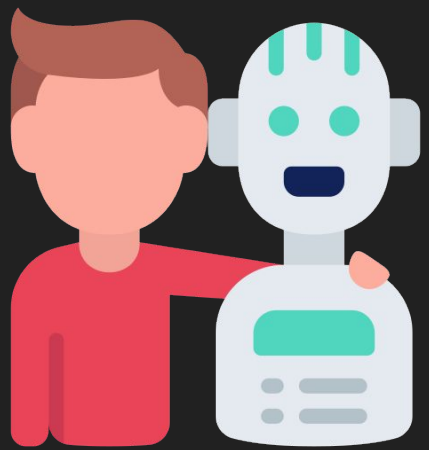
Problem

Research is hard and writing in LaTeX is hard.
How about we make it a whole lot easier?

GOLEM

Our solution

Github-Copilot but for LaTeX documents.



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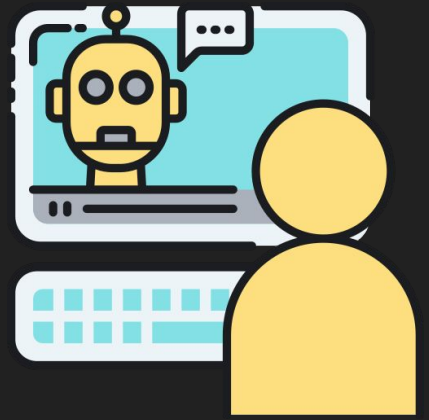
What it should do

- Real-time text autocompletion
  (for both latex and natural language).
- Suggestions for citations and assistance
  in creating a bibliography.
- Conducting a comprehensive review of the paper.



GOLEM

LatexAI

Add files

main.tex

bibliography.bib

Editor

Bibliography | Hide Review | Compile

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    \label{fig:Follow}
  \end{subfigure}
\caption{Question 1 (7 \& 8)}

\end{figure}

\begin{figure}[!th]
  \begin{subfigure}[b]{0.5\
    \includegraphics[width=
    {images/Task 1/Jane.png
    \caption{Jane}
    \label{fig:Jane}
  \end{subfigure}
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\begin{subfigure}[b]{0.5\te
    \includegraphics[width=
    {images/Task 1/Liam.png
    \caption{Liam}
    \label{fig:Liam}
  \end{subfigure}
\caption{Question 1 (9 \& 1

\end{figure}

\begin{figure}[!h]
    \centering
    \includegraphics[width=
    \caption{Histogram (11)
    \label{fig:Histogram}

\end{figure}
\begin{lstlisting}
*** AVG(CALC_THROUGHPUT(ALL
TO ALL_OCCURRENCE ['Process
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\subsection{c)}
From data collected in prev
In figure \ref{fig:Subscrip
user, almost 73\% of all. I
chart are not evenly distri
second one. Two last remain
In \ref{fig:Component and s
used option regardless of s
information about resources
other employee. We can see
the least amount of work (a
In figure \ref{fig:IT-Suppo
Amy and Julie share rest ti
In chart \ref{fig:Register}
\ref{fig:Send Answer} shows that resource are similar responsibility in the matter of sending
answers. Figure \ref{fig:Follow} shows that "Follow up" is Eric's domain. Jane is focused on
three tasks, but also sometimes does "frontline resolution". Whereas Liam spends his time on
"investigate" and "register". Histogram Chart component \ref{fig:Histogram} shows that the
first three weeks are the most intense period of work. Then we see a decline, the next seven
weeks are a rather peaceful period of work.


.dcgan
```

Add | Ignore

ABSTRACT

Identifying novel functional protein structures is at the heart of molecular engineering and molecular biology, requiring an often computationally exhaustive search. We introduce the use of a Deep Convolutional Generative Adversarial Network (DCGAN) to classify protein structures based on their functionality by encoding each sample in a grid object structure using three features in each object: the generic atom type, the position atom type, and its occupancy relative to a given atom. We train DCGAN on 3-dimensional (3D) decoy and native protein structures in order to generate and discriminate 3D protein structures. At the end of our training, loss converges to a local minimum and our DCGAN can annotate functional proteins robustly against adversarial protein samples. In the future we hope to extend the novel structures we found from the generator in our DCGAN with more samples to explore more granular functionality with varying functions. We hope that our effort will advance the field of protein structure prediction.

REVIEW

1: Following words: "shows", "directly-follows" and "graph" are used too frequently. Think about using synonyms.

2: The page lacks a coherent structure and logical arrangement of content. The text is difficult to follow and the reader is not sure what the main point of the paper is.

3: The paper is not written in a formal, objective, and precise language. It uses informal language and slang, which is not appropriate for a scientific paper.

4: The paper is difficult to read and understand. The author should revise the paper to make it more clear and concise.

Let's talk business

Facts

- 1.2 million users of GitHub Copilot
  (4.3% of all programmers)
- GitHub Copilot costs $10 per month
- 12 million users of Overleaf
  (all of which use latex)

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$ 5 MILLION + per month

4.3% * 12 mil * $10 = $5.16 mil

Competition

Overleaf, but… no AI-fueled capabilities.

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Business Model

- Subscription base:
  - Free trial - 1 week
  - Subscription $10/month

- Custom solutions for enterprise

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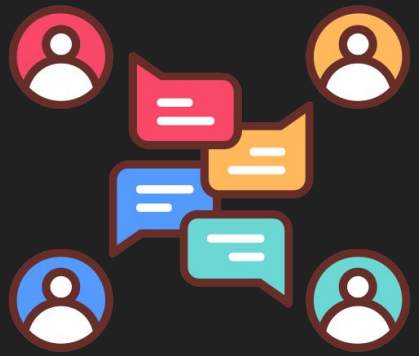
Scaling

- Easy to adapt for other industries, such as marketing, story writing, and blogging.
- Possible to seamlessly integrate as an extension for existing applications.



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Next steps

- Spelling, grammar, and punctuation checking and correction for the text.
- Interactive chat for talking about LaTeX and changing the content.
- **Fasttrack for implementing users feedback.**

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Thanks for your attention!