LaTeX Copilot

Our Background

- **Graduates and students of WUT**

- **Majoring in Computer Science**

- **Experience with Data Science and WebDev**

- **Members of Golem AI Association**

Warsaw University of Technology

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Problem

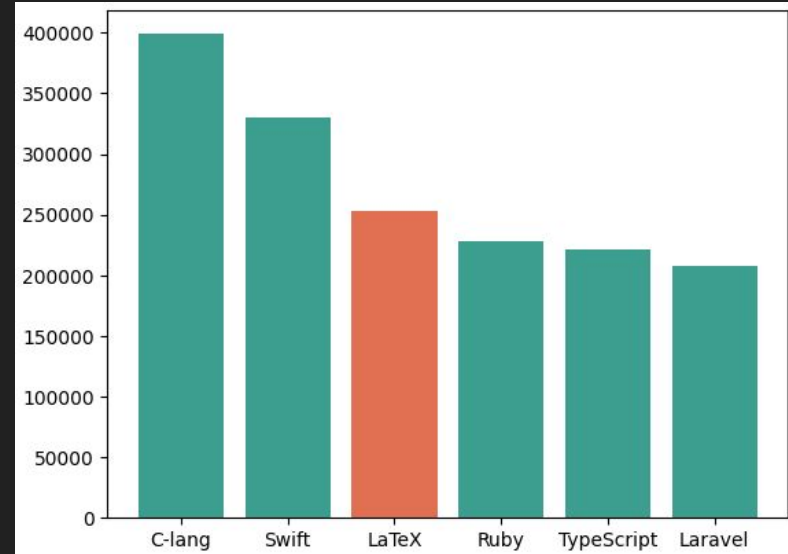**Researchers and engineers struggle with writing LaTeX documents.**

Importance of LaTeX

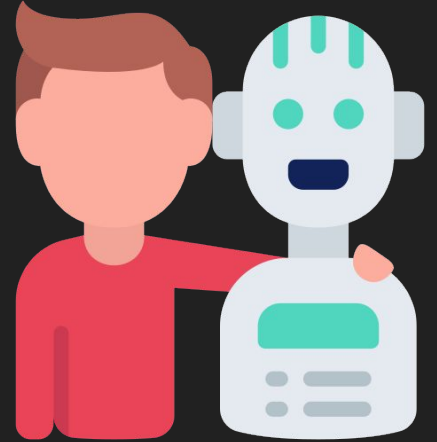On StackExchance, there is 252,687 questions about LaTeX.

This would make it **33rd most popular** topic on StackOverflow!

How to make writing LaTeX documents easier?

Our solution

Github-Copilot but for LaTeX documents.

What value do we bring to the users?

- 55% faster writing.

- Lower barrier of entry for writing LaTeX documents.

- Enhance the writing experience by automating tedious and boring tasks.

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How many users to expect

- GitHub Copilot has 1.2 million users (4.3% of all programmers)

- 12 million users of Overleaf

- 4.3% * 12 million = 516,000

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Technologies used

- StableCode-Completion Model

- Transformers library

- Gradio for demo app

- accelerate, bitsandbytes, scipy for training

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\section{Topological f\/ield theories and related algebras}\label{s2}

\subsection{Closed topological f\/ield theories} The simplest variant
of topological f\/ield theory is closed topological f\/ield theory
(\cite{At, D2}, see~\cite{K} for more references). In this case we consider oriented closed
surfaces without boundary. Also we f\/ix a f\/inite-dimensional vector space
A over a f\/ield $\mathbb{K}$ with basis $\alpha_1, \dots, \alpha_N$ and associate a~number
$\lc a_1,a_2,\dots ,a_n \rc_{\Omega}$ to each system of vectors
$a_1,a_2,\dots ,a_n\in A$ situated at a set of points
$p_1,p_2,\dots ,p_n$ on a surface Ω (Fig.~\ref{f1}).
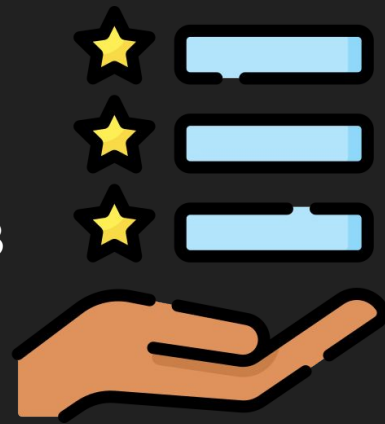
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Business Model

- Pay-as-you-go

Next steps

- Implementing our solution as a browser extension for Overleaf.

- Fine-tuning the model on custom LaTeX dataset (5.6 TB of scientific papers available on ArXiv).

- Model distillation and pruning for faster and cheaper model.

- **Fasttrack for implementing users feedback.**

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Thanks for your attention!

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