



# Higher Education in the new AI era

September 23



**Joel Mills**

Head of Learning &  
Teaching



# Who are the players?



## OpenAI

- First Generative Text tool to be widely known
- ChatGPT released on 30 November 2022
- Launched on GPT 3
- Currently on GPT 4 (paid)
- Most complex AI generative tool
- 8000 tokens
- Chat history
- Now with Multimodal input and linked to DALE-3
- GPT 5 coming...!



- Integrated Bing search
- Released February 23
- Access to real-time internet
- Search engine chatbot
- Based on GPT 4 (free)
- 2000 tokens
- Chat history
- Integrated into Windows 11 search



## Google Bard AI Chatbot

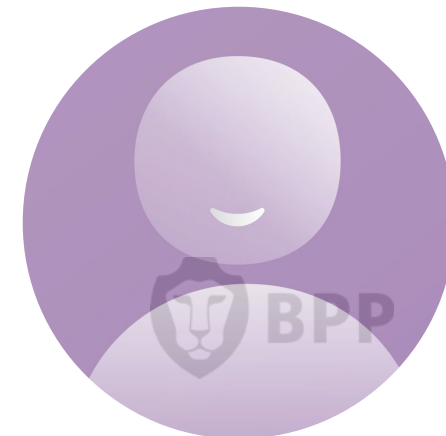
- Conversational AI chat tool
- Released March 23
- Access to real-time internet
- Based on LaMDA (Language Model for Dialogue Applications)
- Chat history
- 2000 tokens

## ANTHROPIC

## (Claude)

- Conversational AI chat tool
- Released July 23
- Better at writing in different 'voices'
- Based on a '10 constitution principles' approach
- Access to real-time internet
- Partnering with DuckDuckGo
- 100,000 tokens (or roughly 50,000 words at once)

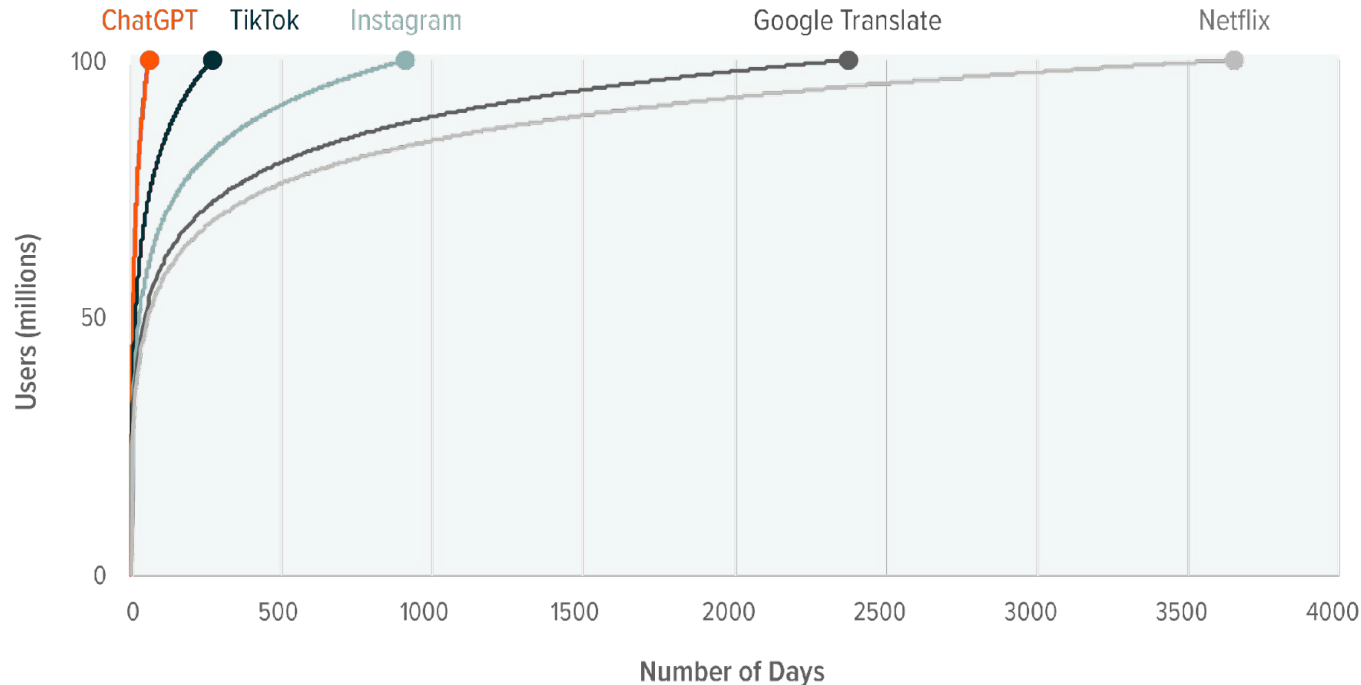
Building Careers Through Education



# The pace of change

## TIME IT TOOK COMPANIES TO REACH 100 MILLION USERS

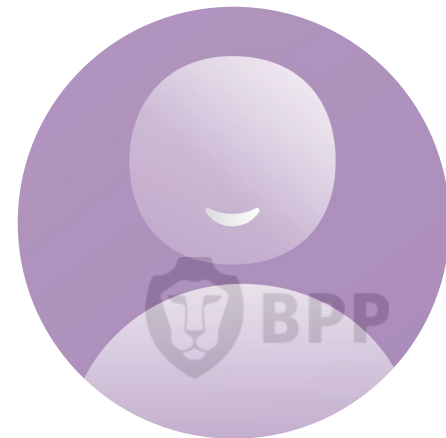
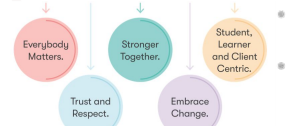
Sources: Global X ETFs with information derived from: BBC News. (2018, January 23). Netflix's history: From DVD rentals to streaming success; Cerullo, M. (2023, February 1). ChatGPT user base is growing faster than TikTok. CBS News.



ChatGPT is estimated to have reached 100 million users in just two months. It took Netflix 10 years to reach 100 million users; six and half years for Google Translate; roughly two and a half years for Instagram; and about nine months for TikTok.

<https://www.globalxetfs.com/generative-ai-explained/>

Building Careers Through Education



# Tokens



- Google Bard and Bing Chat have a token limit of 2K
- GPT-3 and ChatGPT support 4K tokens
- GPT-4 comes with a default limit of 8K. However, there is a variant of GPT-4 that can handle up to 32K tokens
- Claude 2 has a limit of 100K tokens

Tokens can be thought of as pieces of words. Before the API processes the prompts, the input is broken down into tokens. These tokens are not cut up exactly where the words start or end - tokens can include trailing spaces and even sub-words. Here are some helpful rules of thumb for understanding tokens in terms of lengths:

- 1 token  $\approx$  4 chars in English
- 1 token  $\approx$   $\frac{3}{4}$  words
- 100 tokens  $\approx$  75 words

Or

- 1-2 sentence  $\approx$  30 tokens
- 1 paragraph  $\approx$  100 tokens
- 1,500 words  $\approx$  2048 tokens

Wayne Gretzky's quote "*You miss 100% of the shots you don't take*" contains 11 tokens.

OpenAI's charter contains 476 tokens.

The transcript of the US *Declaration of Independence* contains 1,695 tokens.

<https://help.openai.com/en/articles/4936856-what-are-tokens-and-how-to-count-them>



# Prompts

“An AI Prompt is any form of text, question, information, or coding that communicates to AI what response you're looking for.”

<https://coschedule.com/marketing-terms-definitions/ai-prompt>

## Poor:

Summarize the meeting notes.

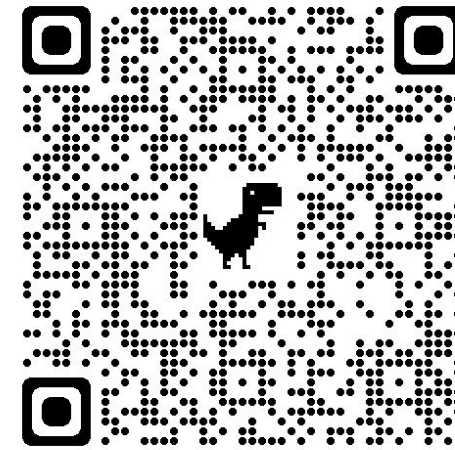
## Better:

Summarize the meeting notes in a single paragraph. Then write a markdown list of the speakers and each of their key points. Finally, list the next steps or action items suggested by the speakers, if any.

## Best:

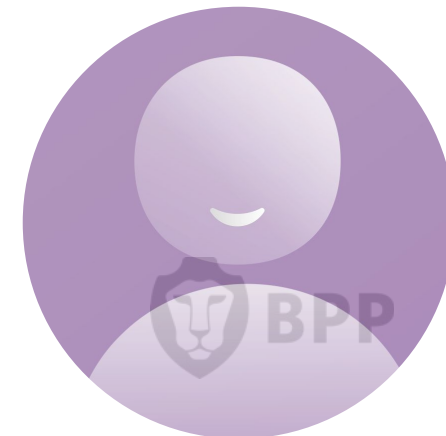
You will act as a professional secretary. You will be skilled in notetaking and mark-up of transcripts of text. You will use British English for all spellings and grammar.

Then the rest of what you want it to do.



<https://platform.openai.com/docs/guides/gpt-best-practices/six-strategies-for-getting-better-results>

Building Careers Through Education



# Some differences...

<https://www.cerebrium.ai/blog/how-does-claude-the-new-llm-from-anthropic-compare-to-chatgpt-a-serious-contender>

what is the square root of 2420520. calculate this to 2 decimal points

Building Careers Through Education



**GPT 3.5**  
The square root of 2,420,520 is approximately 1554.64 when rounded to two decimal places.

**GPT 4**

However, I can give you an approximation using a calculator:

$$\sqrt{2420520} \approx 1555.8065$$

<http://www.math.com/students/calculators/source/square-root.htm>



The square root of 2420520 to 2 decimal points is approximately **1555.81**.



The square root of 2420520 to 2 decimal points is 1555.22.

The Square Root Calculator will find the square root of the number you enter.

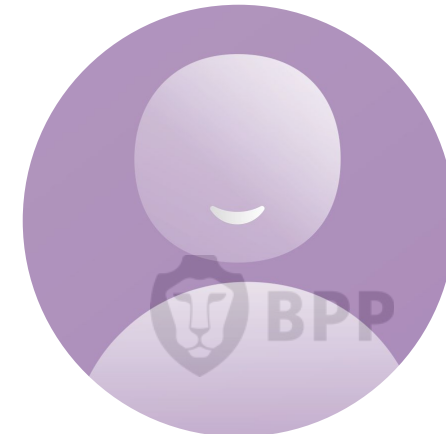
Number

Square Root

ANTHROPIC

Okay, let's calculate the square root of 2420520 to 2 decimal points:

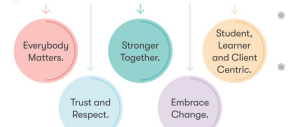
The square root of 2420520 is approximately 1556.22






# Latest AI developments

Building Careers Through Education




Plugin store


Popular New All Installed Search plugins

**VoxScript**  
Install


Enables searching of YouTube transcripts, financial data sources, and Google Search results, and more!

**ChatWithPDF**  
Uninstall


Chat with everything from entire PDF books to Google Drive documents just by providing a link.

**Wolfram**  
Install


Access computation, math, curated knowledge & real-time data through Wolfram|Alpha and Wolfram Language.

**KeyMate.AI Search**  
Install


Search&Browse the web by using Google Search results with KeyMate.AI.

**ScholarAI**  
Uninstall

Unleash scientific research: search 40M+ peer-reviewed papers, explore scientific PDFs, and save to reference...

**KAYAK**  
Install

Search flights, stays & rental cars or get recommendations where you can go on your budget.

**Prompt Perfect**  
Install





Type 'perfect' to craft the perfect prompt, every time.

< Prev 1 2 Next >

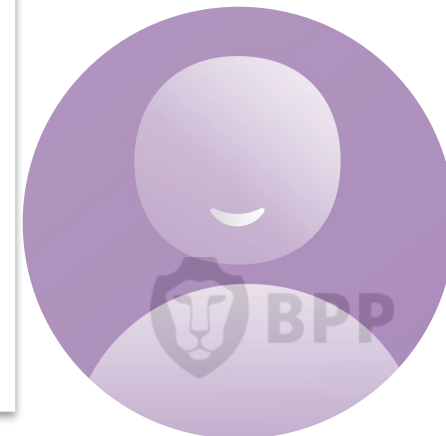
⚡ GPT-3.5 GPT-4

⚡ 🌀 🌐

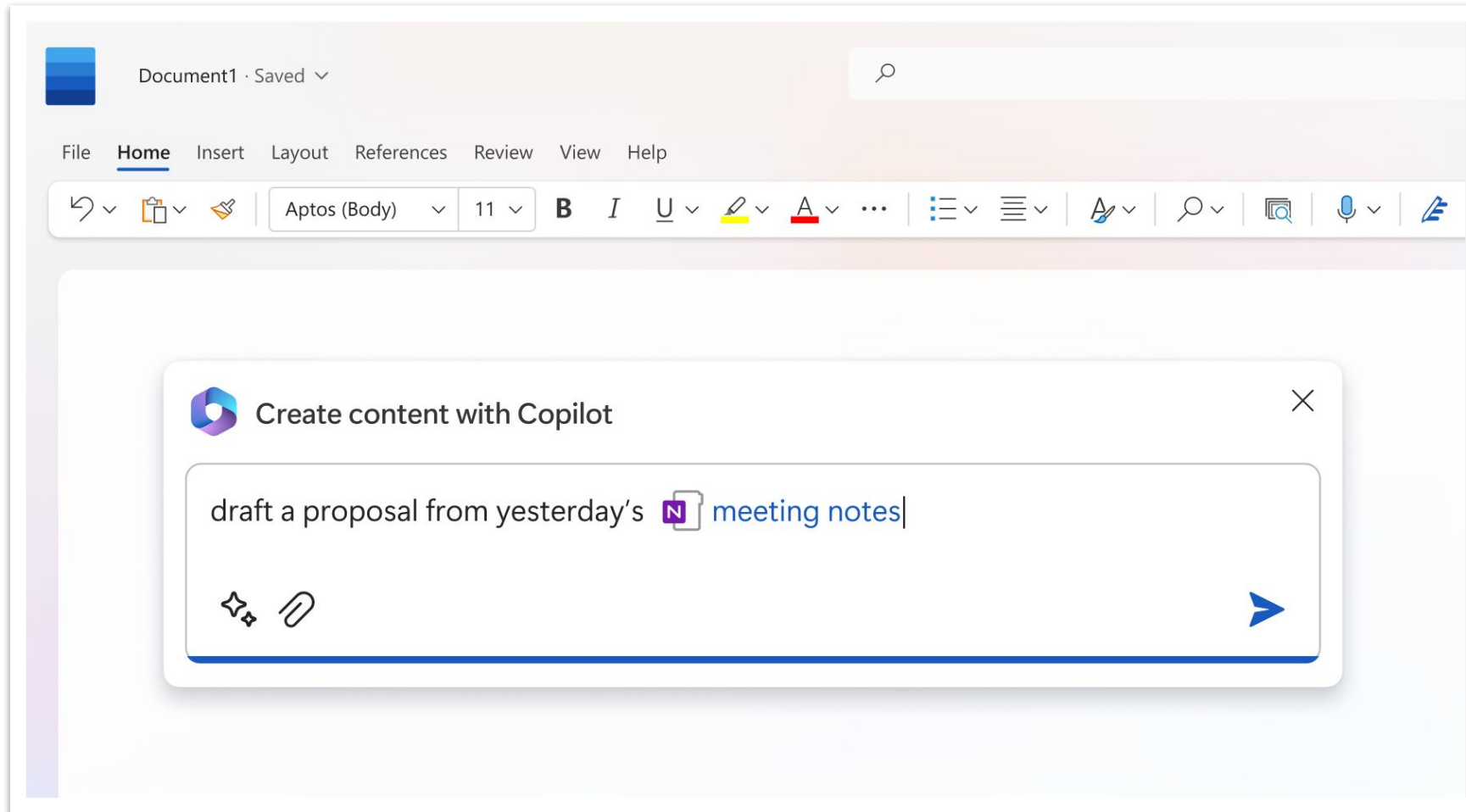
3/3 Enabled

 AI Agents	<input checked="" type="checkbox"/>
 ChatWithPDF	<input type="checkbox"/>
 ScholarAI	<input checked="" type="checkbox"/>
 WebPilot	<input checked="" type="checkbox"/>

ChatGPT PLUS

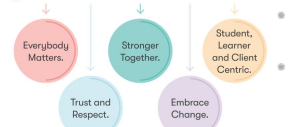


# Latest AI developments



<https://blogs.microsoft.com/blog/2023/03/16/introducing-microsoft-365-copilot-your-copilot-for-work/>

Building Careers Through Education





# AI as a friend

- AI for academic staff
  - Academic writing
  - Curriculum design
  - Marking
  - Feedback



Use the Essay title, the learning outcomes and the grading criteria for each learning outcome personalised feedback, using their name, on the submitted student essay below with specific learning outcome. Write 2 overall summary strengths and summarise any areas for improvement overall grade between 0% and 100% based on the grading criteria and grades awarded for level 4.

Essay title:

“Critical reflection on an aspect of professional learning and teaching development.”

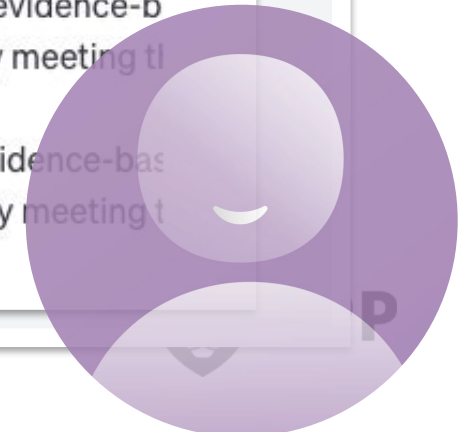
Learning Outcomes:

Learning Outcome 2: Use appropriate professional frameworks to critically reflect on your practice and your teaching practice.

Grading criteria for Learning Outcome 2:

0%-49%: Fail: Limited reflection. Original work with personal reflection and broad evidence-based teaching practice and development. Provides insufficient evidence of successfully meeting the FHEA.

50%-59%: Pass: Wholly original work with articulate critical reflection and solid, evidence-based teaching practice and development. Provides satisfactory evidence of successfully meeting the FHEA.



# AI for students

- AI for students
  - As an assistive technology
  - For proof reading tone, spelling, punctuation and grammar
  - As a translator
  - For research and drawing themes from papers

## LaMPost: Design and Evaluation of an AI-assisted Email Writing Prototype for Adults with Dyslexia

STEVEN M. GOODMAN, University of Washington, USA and Google Research, USA

ERIN BUEHLER, PATRICK CLARY, ANDY COENEN, AARON DONSBACH, TIFFANIE N. HORNE, MICHAL LAHAV, ROBERT MACDONALD, RAIN BREAW MICHAELS, AJIT NARAYANAN, MAHIMA PUSHKARNA, JOEL RILEY, ALEX SANTANA, LEI SHI, RACHEL SWEENEY, PHIL WEAVER, and ANN YUAN, Google, USA

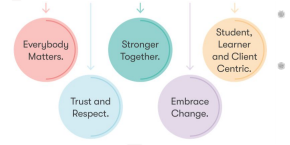
MEREDITH RINGEL MORRIS, Google Research, USA



Fig. 1. The LaMPost interface. The system augments a typical browser-based email editor with three AI-powered features: (left) users can generate an outline of the email's main ideas (a) with the option for a related subject line (b); (center) users can generate



# Ethical considerations of AI



```
sql Copy code  
IF(INSTR("no;n/a;no comment", Lower([Do you have any specific comments on yo
```

are their positions:



lower is not a function. it is LowerCase. please re write

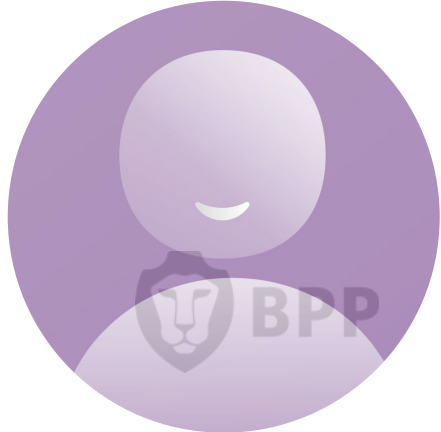


I apologize for the mistake. You are correct that the function in Alteryx to convert a string to lowercase is `LowerCase()`. Here's the corrected formula:

```
sql Copy code  
IF(INSTR("no;n/a;no comment", LowerCase([Do you have any specific comments o
```



The do  
pregna

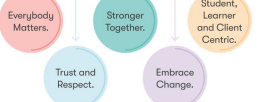


<https://firefly.adobe.com/generate/images?prompt=photograph+of+a+female+doctor+and+a+male+nurse+in+hospital.+make+it+clear+which+is+the+doctor+and+which+is+the+nurse&seed=38379&seed=51466&seed=54283&seed=26988&aspectRatio=square&locale=en-us>

# Ethical considerations of AI

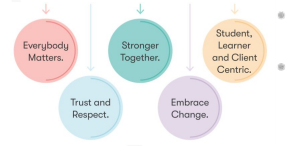


Building Careers Through Education





# AI as a foe – the jobs market



**Near  
gene**

History suggests profound technological change presents significant challenges for the economy, it is estimated that the income going to the top 1%

More than

**9 IN 10**

leading businesses have ongoing investments in artificial intelligence.

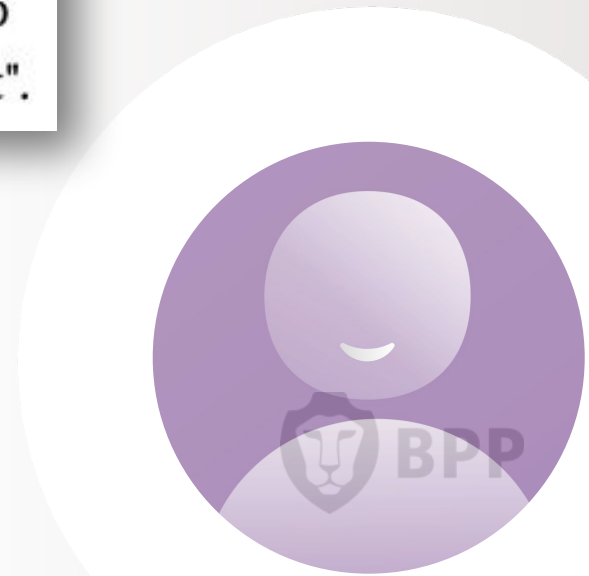
rial  
ross the  
he share of

tomation to millions of  
kers

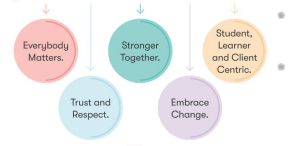
is, AI could  
tive AI, able to  
advancement".

**The AI  
middle-class  
time**

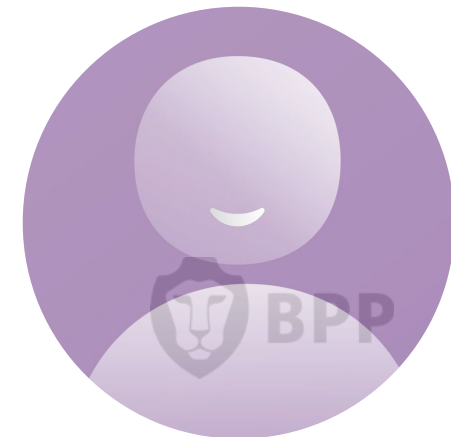
According  
replace the  
create con



# AI as a foe – the digital divide



- Paid access to the best AI tools
- Institutions with an AI research budget
- First-world users vs third-world trainers





# For further information

Joel Mills – [JoelMills@bpp.com](mailto:JoelMills@bpp.com)

Twitter – iLearningUK - <https://twitter.com/iLearningUK>

