Welcome to the machine
#ChatGPT – a guide to resources

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There is a large and rapidly expanding discourse on ChatGPT, GPT4, Bing, Bard, Dall.E and other generative AI tools and of the broader questions of AI in higher education. Here is a sample of materials that I have found useful in seeking to understand this challenge. It started as a 2-pager and is now ~~approaching~~ at saturation point! I suggest you scan the whole document and see what is interesting to you. There is enough here for months of reading and learning about this new (to us) technology.

To learn about #ChatGPT …
The best thing to do is **sign on at chat.openai.com** (it's free; ChatGPT+ is US$20/month) and ask it about itself (and anything else you like). Keep in mind that #ChatGPT is a research project of OpenAI and when you use it you are effectively increasing the company's monetary value (already estimated at US$30bn) and providing it with more training data. But you are probably doing something similar every time you use the internet anyway

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1.   Why all the fuss?

[ChatGPT and the Future of University Assessment](#) by **Kate Lindsay**. An early intervention on the topic.

A [graphics-heavy explanation](#) of Generative AI, by **Nick Routley & Mark Belan**

A [quick overview](#) of the history of AI from *Wired*, to put you in the picture.

A snappy ['investigative' story](#) from **NBC** Bay Area (USA) [7 min video]

A brief [history of ChatGPT](#) itself, from MIT's *Technology Review* – showing that it has been decades in the making (but not in the planning for its deployment!)

Ted Chiang's [*New Yorker* article](#): 'ChatGPT is a blurry JPEG of the web' has become an instant classic in thinking about the technology and its implications for writing.

Elizabeth Weil in *New York Magazine* [on Emily Bender](#) (of 'stochastic parrot' fame) and other critics/boosters of LLMs

Bender's celebrated article: [On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?](#) – a stern warning on the dangers of thinking of AIs as human.

Marc Watkins has written a fairly [positive evaluation of ChatGPT](#) in *Inside Higher Education*

2.   It's all about the money!

[Tech Giants are in a Race to Dominate the AI Frontier.](#) This is a business article, but it shows you the main players (the usual suspects, Apple, Meta, Alphabet, Microsoft) and just how much money is being ploughed into AI.

[Risk of 'industrial capture' looms over AI revolution](#) A small number of private tech companies is increasingly dominating the AI research landscape, with implications for all of our futures, according to **Madhumita Murgia** in the *Financial Times* [24.3.23]

[The secret history of Elon Musk, Sam Altman, and OpenAI](#) – the inside story by **Reed Albergotti** for *Semafor* [29.3.23]

[Now the humanities can disrupt "AI"](#) – **Lauren M. E. Goodlad & Samuel Baker** manage to pack just about every critical perspective on ChatGPT and AI into one article! From *Public Books – a magazine of ideas, arts, and scholarship.* Exhilarating stuff!

[Where is the money being made](#)? Interesting but slightly techy article that outlines the components of the industry and where the value is likely to be captured. Currently, those doing best financially out of AI are the manufacturers of hardware and providers of cloud services. There is debate as to where future revenues may be generated and accrued.

[The inside story of ChatGPT](#) by **Jeremy Khan** in *Fortune*. A potted history of the popular AI platform, outlining the contradictory motives and implications of its development. Excellent for putting this technology into a broader context.

A (long) (2hrs+) [interview with Sam Altman](#), CEO of OpenAI, conducted for his podcast by **Lex Fridman**. Important as it gives an insight to the thinking behind the development of ChatGPT and why it was deployed into the public so rapidly (YouTube video)

[How ChatGPT and Natural Language Technology Might Affect Your Job If You Are a Computer Programmer](#). In *Forbes.* AI might make coding available to all of us but might reduce people's desire to learn to code in the first place.

Joma Tech's [Re-cap of ChatGPT](#) – a nice techy video from a nice techy guy. Will give you a good overview of the evolution of ChatGPT – (comes with a little bit of swearing)

The '[inside story](#)' of how ChatGPT was developed – **Will Douglas Heaven** reports from the developers of the technology (in MIT *Technology Review*)

3.   So, are we (in education) all doomed?

[Academic papers written by AI get a solid B — but is it cheating?](#) Great to see a University Vice-Chancellor weighing in on the debate and taking a (progressive) position. A very brief opinion piece by **Rhona McEwen**, VC of Victoria Uni, Toronto.

[ChatGPT is a Paradigm Shift; why Education Should Embrace It](). **Dr Mark van Rijmenam**, Futurist. A rather breathless encomium on the potential of AI to take education out of the C19 but does paint a vision of a much more interactive and dare say it – fun – future.

[ChatGPT discussion with Dave Cormier (CAN) and Tim Fawns (AUS).]() This is an hour-long video of a 2-way conversation - but it is a very accessible, quite entertaining introduction to the many issues that AI technologies raise for educators. Well worth your time.

What are the key issues? [Autumm Caines struggles]() with questions around the moral dimensions of ChatGPT – not the 'cheating' aspect, but the issues around ownership of data and the outsourcing of our lives to the companies. Important questions in relation to digital citizenship that students and lecturers need to think about.

[The Robots Are Coming: Artificial Intelligence and the Education Revolution]() - A nice slide deck by **Brenna Clarke Gray** that gets the key issues across very clearly and concisely.

[ChatGPT in higher education: Considerations for academic integrity and student learning]() An overview of developments in AI in HE to date – with particular emphasis on student experience and the lack of student voice in the debate so far. By **Miriam Sullivan**, **Andrew Kelly** and **Paul McLaughlan** of Edith Cowan University, Australia.

4.   How are people using this AI stuff?

[20 Entertaining Uses of ChatGPT You Never Knew Were Possible]() All work and no play: we know what that means. Some of these are potentially good assignment topics or classroom activities – use your (and your students') imagination!

Here's [a list]() of some of the most popular **AI writing tools –** there's a lot more to AI than ChatGPT!

If you want to use AI, or get your students to use it, you need to learn about **prompting** or more technically 'prompt engineering'. Here is a [free online course]() that will get you from very basic to advanced. Here's the [promotional video.]()

This [*New York Times* article]() contains the now infamous (and early) example of the Bible, the peanut butter sandwich and the VCR. Check it out. Will hopefully stimulate you to produce your own #ChatGPT masterpiece.

ChatGPT (and similar) may be of great benefit to people with a range of communication disabilities, according to [this article]() by a group of Australian researchers

[AI Weirdness]() by **Janelle Shane** is a lovely compendium of the (many) sorts of things that can (and do) go wrong with AI tools

[Promotional video]() from **Microsoft** about its new CoPilot service that will put generative AI at the centre of its tools such as Word, Powerpoint and Excel – very soon!

5.   OK, how are we going to cope with all this?

Resources and guides

Anna Mills (Marin College, San Francisco) has co-compiled an ever-expanding set of resources on AI and ChatGPT in HE. You need to check it out and contribute if you can – it is a collective exercise. She has written a more formal piece in *Critical AI* and it's as good an overview of the topic as you will get, with many linked resources. It is regularly updated.

Unlocking the power of generative AI models and systems such as GPT-4 and ChatGPT for higher education a guide for students and lecturers – a comprehensive guide (47pp) from a group based in a number of **German universities**, including diverse discipline areas.

For the **visually-inclined,** this ChatGPT Wakelet collection from **Rich Dron** is great!

AI, Chatbots & ChatGPT for Teachers – a **MOOC** that is free to use. Developed by **Nick Jackson**. Starts with a very simple intro to AI, moves on to chatbots and then deals with educational aspects including assessment. A great way to get up to speed fast.

ChatGPT & Education an excellent **slide-deck** from **Torrey Trust**, that addresses all levels of education with lots of practical examples and advice.

Artificial Intelligence, Student Learning and Assessment A very useful **assessment guide** from **Louise Drumm** at Edinburgh Napier University.

Leon Furze is an Australian teacher who **blogs** extensively and intelligently about the use of ChatGPT in the everyday work of teaching writing

Practical Responses to ChatGPT – **guide** from **Montclair University.**

Responses from educators at the **American University of Cairo** – lots of great ideas!

Student guide to using AI from **Monash University**. Not judgemental – just factual. Focus is on ethics and practicalities.

Podcasts

How ChatGPT transforms a classroom – **podcast** with US high school writing teacher **Cherie Shields** where she discusses very practical ways that she uses the platform to support student writing. Lots that could be transferred across to a HE setting.

How Artificial Intelligence is Impacting Higher Education **podcast** from US educator **Cynthia Alby** whose mission is to 're-enchant education'.

Videos/webinars

A recent **webinar** presentation by **Anna Mills** for QQI can be found here.

QQI in Ireland recently hosted a [series of webinars](#) on AI in Higher Education [27-31.3.23]

Another key contributor to the debates is **Sarah Elaine Eaton** of the University of Calgary. In this [brief video](#) she outlines her current thinking of AI and the 'post-plagiarism' world. Here is a link to a collaborative project on [Artificial Intelligence and Academic Integrity: The ethics of teaching and learning with algorithmic writing technologies](#)

Mike Sharples (co-author of the excellent *Story Machines*) is lead speaker in this EDEN NAP Webinar: [ChatGPT and the AI Essay: Who Will Write the Ending?](#)

Way(s) forward

[Creative ideas to use AI in education](#): A crowd-sourced collection edited by **Chrissi Nerantzi, Antonio M. Arboleda**, **Marianna Karatsiori** and **Sandra Abegglen** [31.3.23]

Boris Steipe established the [Sentient Syllabus](#) **collaborative project** to foster learning in the age of AI. Its three principles are: i) An AI cannot pass a course; ii) AI contributions must be attributed and true; iii) AI use should be open and documented. May help you to design your own AI-conscious syllabus.

Open Educational Resources [OER] are publicly available shared teaching resources. **Anna Mills** and **Elle Dimopoulos** have called for widespread generation and sharing of OERs in [this comprehensive slide deck](#) that has numerous links to valuable resources.

The excellent **Thomas Lancaster** took the best possible approach to ChatGPT (and other AI-based tools) and actively explored it with his students. [Here is what happened.](#)

Marc Watkins is similarly putting out great stuff. Here are some of his ideas for [using generative AI in learning](#) as well as links to/info on some of the lesser known platforms

[How can we teach and assess with ChatGPT?](#) A brief set of suggestions from **Soumyadeb Chowdhury** and **Samuel Fosso Wamba** in *THE Campus* [may require registration – free]. Better on suggestions for tasks than on how to assess them!

ChatGPT and faculty writing/research

What about **academic writing** – by academics? It will be affected by AI tools as well, as [this article](#) by **Ben Chrisinger** in the *Chronicle of Higher Education* points out.

Academic research is already being affected, in both positive and negative ways, according to Jack Grove, in a [comprehensive article](#) in *Times Higher Education*

Nature has also [addressed the issues](#) around the use of ChatGPT in scientific **research**

Scientists **Milton Pividori** and **Casey Green** [outline in this article](#) how they use AI tools 'to reduce the time-consuming process of writing and revising scholarly manuscripts'. If it's good enough for academics …

Detection

For some, **detection** of AI-generated text is the solution. Along with diverse hackers across the world, OpenAI (creators of ChatGPT) have developed their own detector, but admit 'it is impossible to reliably detect all AI-written text'. It's a long way from development of such technology to something that can be incorporated in the policies and processes of an HEI.

Marc Watkins on why we should NOT use such 'detectors': it is against students' interests

Turnitin claims to have developed an almost foolproof **detection device**

Initial research that indicates that LLM detection tools are not reliable: 'a light paraphraser … applied on top of the generative text model, can break a whole range of detectors' – by **Sadasivan et al** [17.3.23] (NB need a fair bit of expertise to understand)

System- and HEI-level statements [selection only]

- · Ireland: **QQI** has issued advice to HEIs
- · UK: **QAA** has developed a broad set of guidelines
- · Australia: **TEQSA** has issued its own advisory
- · Brief statement from **European University Association**

Discussion paper/essay from **Maynooth University**, with some suggestions for future action

The **Australian Academic Integrity Network** [AAIN] has created an excellent set of advisory guidelines for students, staff and institutions based on the work of a large representative group. CC license makes it available for repackaging and reuse. [March 2023]

University College London has developed a well-considered set of recommendations for use of AI in assessment, based on the work of an expert group in the university [Feb 2023]

Some very useful advice from **JISC** (UK) on how *not* to re-word academic integrity statements in response to ChatGPT/generative AI

Ray Schroeder, senior fellow for UPCEA: the Association for Leaders in Online and Professional Education (USA) on How to Respond to Generative AI in *Inside Higher Education*

6.   Broader implications

The Post-Learning Era in Higher Education: Human + Machine A brief and accessible article by **George Siemens** from Educause on the impact that AI might have in education, written before ChatGPT was a thing (2020)

Tim Fawns (Monash U.) has been a perceptive observer of the emergence of #ChatGPT. His 2022 article An Entangled Pedagogy: Looking Beyond the Pedagogy-Technology Dichotomy is a good starting point for thinking about how to shape a response to the AI challenge.

A [recent report](#) from the **Office of the Independent Adjudicator for HE in England and Wales** pointed to important issues in the application of academic integrity as a consequence of COVID19 – similar mistakes should be avoided in relation to the use of generative AI.

[AI in education: ChatGPT is just the beginning](#) A view from Germany (in English). A great preview of the other platforms and technologies coming down the track.

[Prior to (or instead of) using ChatGPT with your students.](#) Autumm Caine on some of the reasons NOT to ask your students to experiment with ChatGPT

Times Higher Education Campus [Spotlight on AI in HE](#) – diverse contributors explore some of the broader questions. Lots of good ideas.

[The Generative AI Race Has a Dirty Secret](#) - **Chris Stokel-Walker** in *Wired* on the (significantly negative) environmental impact of LLMs

Paris Marx on [another dirty secret](#) – how AI (including ChatGPT) is dependent on huge amounts of low-wage human labour, often based in countries such as Venezuela, the Philippines and Kenya - from *Business Insider.*

This extensive report [What's in the Chatterbox? Large Language Models, why they matter, and what we should do about them](#) from the U. of Michigan addresses the substantial policy issues related to LLMs – broader than just ChatGPT and assessment [[one-pager](#)]

How generative AI may impact on one area of work: [local media journalism](#). There are positives and negatives. From **Partnership on AI**

Arguably, the development of AI has been very gendered. **Catherine D'Ignazio** and **Lauren F. Klein**'s *Data feminism* (MIT Press, 2020) provides an alternative perspective and is available as [a free e-book online](#).

Are we already living in a 'dystopic present' of AI? **Luke Hurst** raises some challenging issues in a [recent piece](#) in *Euronews* [28.2.23]

Contrasting long(ish) reads on ChatGPT, consciousness, creativity and language: linguist **Noam Chomsky** and colleagues in the *NY Times* on the [amorality of AI;](#) and writer **Meghan O'Gieblyn** in *n+1* on the [connections between GPT, 'automatic writing' and the unconscious](#).

[ChatGPT and the educational AI chatter: Full of bullshit or trying to tell us something?](#) asks DCU's **Eamon Costello**. His aim is to 'say as little as possible' and maybe to calm the waters.

Finally, OpenAI (developers of ChatGPT and Dall.E.2) have signed up to **Partnership on AI's** [Framework for the ethical and responsible development, creation, and sharing of synthetic media](#) Hopefully, a positive step! Other signatories include BBC, CBC [Canada] and TikTok

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Edited by Perry Share 1 April 2023

Find me on Twitter (while it lasts) at **@PerryShare** (tweeting about ChatGPT and other things) and I can be contacted at perry.share@atu.ie