

Toolkit: Writing with AI

A practical guide for writers

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1 Introduction

This toolkit is intended for writers who have never worked with AI but are curious as to how it might be applied to their work or benefit their writing. The guide assumes no previous knowledge of AI or coding.

The approaches outlined in this guide are by no means exhaustive or prescriptive and are instead intended as a starting

point for those wanting to embark on an exploration of some of the potential applications of AI in relation to creative writing.

Writers who are already familiar with the principles of AI, or who wish to undertake more complex projects, may be interested in the Toolkit *Writing for AI*.

1.1 Using InGAME Toolkits

The remainder of this guide includes 3 main sections, plus a series of additional documents (elsewhere on the site) which make up the toolkit. These documents can be mixed and matched along with those from other toolkits to build a custom collection of the resources you need. Words in **bold blue** are defined in the Glossary. If you feel something is missing from the existing toolkits or would like to suggest a topic for InGAME toolkits to cover, please contact:

enquiries@innovationforgames.com

1.1.1 In this Document

Section 2

Describes what the guide means by AI, offers some examples of AI-assisted writing to read and play, and suggests some tools to create similar effects.

Section 3

Suggests some experiments to undertake with AI to increase your understanding.

Section 4

Suggests how you might build on your experiments and offers some areas for further study.

1.1.2 Additional Documents

AI-Powered Case Studies

Provides case studies and supporting documentation from some pieces created with the exercises described in Section 3.

Quick Start Guide

A guide to designing your own experiments and projects.

Bibliography

Provides a full reference list and links to all works cited in this and other toolkits, plus additional sites and resources which may be useful.

Glossary

Provides a full glossary of terms used across all toolkits.

Background Information

Gives a brief overview of the research behind this and other toolkits and the background of the lead researcher who undertook it.

2 What is AI and Why Write With it?

The term 'AI' generally refers to programs which allow machines to act autonomously in some way. However, the range and detail of what is considered 'intelligence' varies greatly in different disciplines, studies and time periods. You can read more about this in [Julian Togelius' blog](#). (For the full reference and other reading materials you may find useful, please see the Bibliography).

AI is extremely good at handling large amounts of data, finding patterns, executing rule-based tasks and remixing input in unusual ways. It's not so good at generating content spontaneously,

creating coherent stories or distinguishing nuance and context. This means there's a huge amount of scope to put it to work in interesting and creative ways, resulting in works that would not be possible using solely AI computation or solely human creativity.

"[...] explicitly recognise the co-operative approach that is possible."

Vernor Vinge, 1993, 'The Coming Technological Singularity: How to Survive in the Post-Human Era' p. 17

2.1 Examples

This section provides a few examples which use AI technologies to tell stories in different ways.

2.1.1 Sunspring

Sunspring:

<https://www.youtube.com/watch?v=LY7x2lhqjmc>

Format: Script

Creators: Benjamin (AI); Ross Goodwin (Writer/Programmer); Oscar Sharp (Writer/Director)

Premise: 3 characters living in a future where people sell their blood have an argument over their relationship.

Approach: This short was written by an AI which had been trained on science fiction film and television scripts. The output was then edited and filmed by the production team. Comparing the

[original script](#) with the final video gives an indication of some of the creative decisions made by the actors, writer and directors.

2.1.2 Our Precious Future

Our Precious Future:

<https://www.wattpad.com/645750394-our-precious-future-short-story-%E2%9C%93-broken-time>

Format: Flash fiction

Creators: Zo (AI); Katie Bilbrey

Premise: In a future where the human race is dying out, one of the last survivors uses the only thing at his disposal, a time machine, to travel to a better world.

Approach: Writing website Wattpad hosted a competition in which young writers received prompts from Microsoft's [chatbot Zo](#) and created flash fiction stories of 500 words based around the AI-generated premise. Writers were also able to further discuss their ideas with Zo via Facebook chat.



Figure 1: An example of one of Zo's writing prompts

"After I talked to her for a bit and found an idea that interested me, I started to take her more seriously. I did like the conversation with Zo. It was very similar to talking to an actual person"

Katie Bilbrey discussing her experience of working with Zo, 2019, [Synced](#)

2.1.3. AI Weirdness

AI Weirdness: <https://aiweirdness.com/>

Format: Blog (various); book

Creators: GPT2/GPT3 (AI); Janelle Shane

Premise: A collection of a variety of funny and creative uses for AI, with particular highlights such as turning [Victorian handkerchief signals into something post-human](#), [AI-generated Halloween costume suggestions that are sure to get you noticed](#) and [descriptions of potential supervillains](#).

Approach: Shane uses a variety of datasets depending on her intended output and trains GPT2 (and more recently, GPT3) to create short creative works with various themes. Sometimes these are re-used as data sets for other projects, generating even stranger outputs.

2.2 Conclusions

As you may have gathered from those examples, writers can use AI in a variety of ways. AIs might take on the role of challenger, as Zo did for Katie Bilbrey by making suggestions as to what the story might be about. They might take on the role of lead creative, as Benjamin did for *Sunspring*, with its human collaborators acting as editors and interpreters of its strange output (see AI-Powered Case Study 4 for another example of this). Or AIs might act as students, with the writer carefully selecting and tweaking the input to ensure the desired output, as shown in Janelle Shane's various experiments.

2.3 Potential Tools

This section provides a non-exhaustive list of some of the AI systems available which you might use to create or inspire your own creative works. Their key features are briefly described to help you choose the most suitable one for your desired activity. Further information on how to use these tools creatively can be found in section 3.

2.3.1 Chatbots

Unfortunately, Zo was taken offline in 2019. However, there are other **chatbots** available. While most are more limited than Zo in their ability to make creative suggestions, with a little patience, they can act as useful partners for overcoming creative blocks.

Mitsuku:

<https://www.pandorabots.com/mitsuku/>

Developer: Pandabots/Steve Worswick

Overview: Mitsuku is consistently rated as one of the best conversational chatbots freely available. It is regularly updated, and will often highlight new conversational features or suggested topics on the website landing page. While it can theoretically discuss anything, it copes best with small talk such as favourite colours, foods and so on. It will occasionally ask questions and attempt to instigate new lines of conversation.

Quickstart Guide: Type into the command line to begin chatting with Mitsuku. Try not to use multiple sentences, or sentences with multiple clauses as this will result in less coherent responses.

2.3.2 GPT2/3

GPT stands for Generative Pre-Trained Transformer. GPT2&3 are AI systems which are trained on enormous corpuses of textual data to look for patterns and associations in the texts. This information is then used to generate best fit responses when given user-entered prompts. It's a little like the autocorrect function on a smart phone, but far more advanced, and capable of much more complex text generation.

Write with Transformer:

<https://transformer.huggingface.co/>

Developer: OpenAI/Hugging Face

Overview: Write With Transformer offers a variety of different ways of interacting with GPT2/3 using corpuses of differing sizes. Using a larger corpus may give better results, but also causes the system to run more slowly.

Depending on the task required, more focussed corpuses can sometimes yield better results than those with a variety of data types. Therefore the different options Write with Transformer provides offer varying trade-offs.

Quickstart Guide: Begin typing as you would in a Word or Google Doc document. When you're ready for some AI assistance, press tab. Use arrow keys to view the suggestions and press enter to select one. If you don't like any of the options, press tab again for more, or press escape to cancel and continue typing.

3 Experiments and Exercises

The following experiments will guide you through the tools mentioned above in a little more detail with specific outcomes in mind. They only represent a tiny sample of ways you might work with AI creatively, but will hopefully inspire you to come up with your own uses and experiments. Reviewing the AI-Powered Case Studies may give you further ideas.

3.1 AIs as Co-Writers

A really simple way to use AI in writing is as a co-writer or writing buddy. You can work through the exercises below in order building on each one, or pick the one that most suits your interests.

3.1.1 Exercise 1: Character Creation with AI

So far we've focussed on AIs which generate text. But they're not the only kind. GANs (Generative Adversarial Networks) can create images.

Visit <https://thispersondoesnotexist.com/>

You'll see a picture of a person. Except, it isn't. It's a generated image constructed from the AI's database of millions of images. If you like this image, right click it to save it out, or refresh the page for a different one (but remember if you do, you'll never get the previous one back – there are millions of possible images!)

Now you have your character. Think about this person and try to answer the following questions about them:

What's their name?

Where do they live?

How do they spend most of their time?

What are their hopes and dreams?

What were they thinking when this picture was taken?

This will give you the seed to build a story around. If you need more, why not generate a few more characters and think about what their relationship to one another might be? If you'd like more control over how your characters look, or would like to generate locations as well, give [Artbreeder](#) a try.

3.1.2 Exercise 2: Story Development with a Chatbot Buddy

Chatbots can offer you writing advice, but it's not (usually) what they're designed for, so you may have to spend some time coming up with suitable questions.

Chatbots are usually self-obsessed, so you may need to frame the questions around that. For example, if you're stuck on what your character should do next, perhaps phrase it as:

What would you do if [x]?

e.g. What would you do if you lost your wedding ring?
What would you do if your best friend disappeared?

Certain questions will elicit consistent responses in certain bots. For example, Mitsuku will always say she likes kebabs if you ask about favourite foods. But there are still ways around this to generate different responses to help flesh out details about your characters. Asking things like:

What might an [x] eat?

Where might an [x] live?

e.g. What might a child eat?

Where might a teacher live?

Try asking [Mitsuku](#) some of these questions or some of your own to further build your story. (Talking with Mitsuku can be frustrating and difficult. But it can also force you to think up creative questions, which in itself may assist with your writing).

3.1.3 Exercise 3 – Expanding a Story with AI Assistance

Write with Transformer allows you to generate short bursts of text as you write, but what about something longer?

Take whatever piece of writing you have so far and copy and paste it into [Text Synth](#).

Click generate and it will add another hundred words or so. Highlight any interesting descriptions, unusual imagery or snippets of dialogue and consider how you might incorporate them into your story. Edit the text as if you wrote it. Fix grammatical errors, keep in some of those

elements you highlighted, and expand on the generated ideas.

3.2. Als as Analysts

So far we've focussed on pre-trained AI. However, it's also possible to train AI yourself with your own set of data (in this case, your writing, or the writing of someone you admire).

3.2.1 Exercise 4 – AI-aided Analysis

Gather together some of your writing. The more the better, but you'll need at least 50,000 words for this to work well.

Alternatively, you could use work which is freely available online – for example, scripts from [BBC writers' room](#), or novels from [Project Gutenberg](#).

Follow [this step-by-step guide](#) to train the AI on your data.

When your output is ready, take some time to read it and consider the following questions:

Are there any patterns or recurring phrases you notice?

What tone and genre is it?

Is it recognisable as being by the same author or in the same style used in your input data?

What features make you think that?

Often when we analyse a text, we think about the intent of the author, or the effect on the reader. Putting an AI into the process can help draw our attention to themes and tropes we might otherwise not notice.

4 What Next?

You should now have an overview of some of the things you can do with AI, whether that's using a chatbot as a sounding board for your ideas, or getting an AI analysis of your work.

The accompanying documents (particularly the Bibliography) contain further reading which may be useful. If you're particularly interested in making AI-powered narratives, the first toolkit in this series, *Writing for AI* may also be of interest. For other methods to inspire and prompt your writing, take a look at the *Writing with Text Generators* Toolkit.

*"Thanks for sharing your
story, and for sharing
your journey, dear one.
You'll leave a lasting
imprint and that's how
we want to be
remembered."*

*Completion of this document
as written by TextSynth.
<https://bellard.org/textsynth/>*
