Final release

- **Mixture of experts (MOE) with Attention Architecture**
- **Training on Wikipedia + semi-unsupervised corpora of AI books**
- **Human post editing to fix basic grammar nuances**
- **Raw results reported after**
- **Statement in bold report the incipit of the sampling**

In the future artificial intelligence will replace human work — and may represent a potential long-term future in AIs. If worker roles can be perfectly changed without anymore human intervention, we'll be in the AI winter of madness, but nature does appear to require a digital lifesaving regime for a biological human being, and this may allow the prospect of human workers to continue exist indefinitely.

Artificial intelligence can help government deliver policies and services more effectively than with human capabilities and abilities, that also encompass deterrence and analysis. The worst scenario is probably excessive or inappropriate programming, which is why the government have to work to create a perfect deterrent.

Future workers will use artificial intelligence to power existing technologies, or to eliminate redundant pre-defined factors such as genetic bias[1] and simple algorithms. What we will call "general artificial intelligence" ? We might propose "a superintelligence whose well organized function is not conceivable". As well we might point out that a suitably engineered intelligence might look human even if it's not very intelligent. These hypothetical "smart" intelligent beings that will be selected (or at least worthy) will already supersede[2] human intelligence.

Technical details of the training

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[1] We interpreted "genetic algorithms" to refer to "genetic code in living beings"
[2] We paraphrased the use of double superlatives to make it more readable

We trained a deep neural network to generate short paragraphs of text from an incipit. The model is based on the Mixture-Of-Experts architecture (Shazeer et al. 2017) with Attention (Kaiser et al. 2017). This architecture represents the state of the art in deep learning applied to natural language processing as of 2017

The model contains over 1 Billion free parameters and it is trained on an HPC cluster (Eurotech S.p.a.) with a total of 16 GPUs (Graphical Processing Units). We used a customised version of the open source software Tensor2Tensor (https://github.com/tensorflow/tensor2tensor) to implement the model and we trained it for over 60 thousand iterations on a recent dump of the English Wikipedia. For each page we extracted the text and truncated the length to 2048 words. Then a selection of random pages were bundled in batches of 8192 words and fed to the neural network. Synchronous training was used. The model receives sentences and tries to predict the next word in the sentence. The model has no prior knowledge of the english language nor of any other concepts. It merely tries to learn to guess the next word in the sentence by observing millions of sentences.

We trained the model for over a week and it converged to a loss of about 0.6 on the Wikipedia corpus. At this point the model is already capable of producing original generic sentences in English. To further narrow down the learning space we extended the training over a selected list of 20 books coming from the broad search "artificial intelligence" done in Amazon as of September 2017. This corpora, we believe, reflects a good approximation of what a group of experts can achieve to learn for the task of answering the questions posed during the I7.

\Raw output from the neural net

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The worst of these is probably excessive or inappropriate programming , which is why the government works to create the perfect deterrent .

Future workers will use artificial intelligence to the power of existing technologies , or to eliminate redundant pre - defined factors such as genetic algorithms and computer algorithms .
 what we would call " artificial general intelligence "?
 we might propose that a superintelligence whose well - organized function is not conceivable given the right to exclude others whose rightful ownership we would sympathize .
 instead , we might point out that a suitably engineered intelligence might look human even if it ' s not very intelligent .
 these hypothetical " smart " intelligent beings selected (or at least worthy) superadvanced , superhuman intelligence .