



EXAME DE PROFICIÊNCIA EM LÍNGUA INGLESA – 2023/1

Nome: _____

Programa de Pós: _____

ATENÇÃO

- Apresentar documento de identidade com foto. Não é permitido o uso de crachá de funcionário e carteirinha de estudante da PUCRS.
- Entregar a prova no prazo de 2 (duas) horas.
- Leia o texto abaixo e responda às perguntas referentes a ele em **PORTUGUÊS**.
- Utilize somente dicionários ou gramáticas, em papel, da língua inglesa, e nenhum outro material de consulta ou equipamento eletrônico.
- Não é permitido o empréstimo de materiais.
- Leia atentamente o que se pede. A correta interpretação das questões faz parte da prova.
- Não é permitido conversar com os demais participantes. Em caso de dúvida ou necessidade, chame o fiscal da prova.
- Use somente caneta esferográfica e escreva de forma legível. Respostas ilegíveis não serão aceitas.
- Todas as respostas devem ser escritas no espaço a elas destinado no corpo da prova.

AI - HOW SCARED SHOULD WE BE?

John Naughton – The Observer columnist
The Observer - 7 maio 2023

Last Monday an eminent, elderly British scientist lobbed a grenade into the febrile anthill of researchers and corporations recurrently obsessed with artificial intelligence or AI (aka, for the most part, a technology called machine learning). The scientist was Geoffrey Hinton, and the bombshell was the news that he was leaving Google, where he had been doing great work on machine learning for the last 10 years because he wanted to be free to express his fears about where the technology he had played a seminal role in founding was heading.

To say that this was big news would be an epic understatement. The tech industry is a huge, excitable beast that is occasionally prone to outbreaks of “irrational exuberance,” and madness. We are currently in the grip of another outbreak of exuberance triggered by “Generative AI” – chatbots, large language models (LLMs), and other exotic artifacts enabled by the massive deployment of machine learning – which the industry now regards as the future for which it is busily tooling up.

Recently, more than 27,000 people – including many who are knowledgeable about the technology – became so alarmed about the rush underway towards a machine-driven dystopia that they issued an open letter calling for a six-month pause in the development of the technology. “Advanced AI could represent a profound change in the history of life on Earth,” it said, “and should be planned for and managed with commensurate care and resources.”

The tech giants, which have a long history of being indifferent to the needs of society, have sniffed a new opportunity for world domination and are not going to let a group of nervous intellectuals stand in their way. This is why Hinton's intervention was so significant because he is the guy whose research unlocked the technology that is now loose in the world, for good or ill. And that is a pretty compelling reason to sit up and pay attention.

He is a truly remarkable figure. If there is such a thing as an intellectual pedigree, then Hinton is a thoroughbred. His father, an entomologist, was a fellow of the Royal Society. His great-great-grandfather was George Boole, the 19th-century mathematician who invented the logic that underpins all digital computing.

Hinton has been obsessed with artificial intelligence for all his adult life, particularly with the problem of how to build machines that can learn. An early approach to this was to create a "Perceptron" – a machine that was modeled on the human brain and based on a simplified model of a biological neuron. In 1958 a Cornell professor, Frank Rosenblatt, actually built such a thing, and for a time neural networks were a hot topic in the field. But in 1969 a devastating critique by two MIT scholars, Marvin Minsky and Seymour Papert, was published ... and suddenly neural networks became yesterday's story. Except that one dogged researcher – Hinton – was convinced that they held the key to machine learning.

In 1986, he and two of his colleagues at the University of Toronto published a landmark paper showing that they had cracked the problem of enabling a neural network to become a constantly improving learner using a mathematical technique called "back propagation". And, in a canny move, Hinton christened this approach "deep learning," a catchy phrase that journalists could latch on to.

In 2012, Google paid \$44m for the fledgling company he had set up with his colleagues, and Hinton went to work for the technology giant, in the process leading and inspiring a group of researchers doing much of the subsequent path. During his time at Google, Hinton was fairly non-committal about the danger that technology could lead us into a dystopian future. "Until very recently," he said, "I thought this existential crisis was a long way off. So, I don't really have any regret over what I did."

But now that he has become a free man again, as it were, he is clearly more worried. In an interview last week, he started to spell out why. At the core of his concern was the fact that the new machines were much better – and faster – learners than humans. "Back propagation may be a much better learning algorithm than what we've got. That's scary ... We have digital computers that can learn more things more quickly and they can instantly teach it to each other. It's like if people in the room could instantly transfer into my head what they have in theirs."

He's right. We're moving into uncharted territory.

I - Leia o texto “**AI - HOW SCARED SHOULD WE BE?**” e responda as questões abaixo:

- 1) Quem é o cientista britânico a quem o texto refere (no primeiro parágrafo), o que ele fez e qual a razão de tal feito? (1 ponto)

- 2) Por que o autor afirma que o tema que o artigo trata não é apenas uma notícia trivial? (1 ponto)

- 3) Explique a razão pela qual a população e alguns peritos no assunto estão solicitando uma pausa no desenvolvimento da tecnologia. (1 ponto)

- 4) Segundo o autor, Hinton é a pessoa mais adequada para fazer este alerta para a comunidade. Justifique. (1 ponto)

- 5) Por que o autor compara Hinton com um “puro-sangue”? (1 ponto)

- 6) O que houve na década de 60 que causou a interrupção das pesquisas sobre redes neurais? (1 ponto)

II - Traduza os seguintes segmentos que estão sublinhados no texto:

- 7) And, in a canny move, Hinton christened this approach “deep learning,” a catchy phrase that journalists could latch on to. (2 pontos)

- 8) During his time at Google, Hinton was fairly non-committal about the danger that technology could lead us into a dystopian future. (2 pontos)
