vast amounts of data[36] (in the case of ChatGPT 3 somewhere in the order of 3bln words), which it then "learns" from in a way that emulates[37] human learning.

To do this, a type of neural[38] network architecture called transformers[39] are used. They process sequences of input data[40], such as text or speech, and then use a mechanism called self-attention[41] to weigh[42] the importance of different parts of the input sequence. Finally, it generates viable[43] output[44] sequences based on that weighted information.

Ultimately[45], this allows the chatbot to[46] understand anything a real–world user says to it, and then generates a response. Naturally, as more real users engage with it, the system continues to learn and refine[47] its responses to become increasingly[48] sophisticated[49] over time.

This remarkable[50] potential for development was demonstrated first-hand[51] in March 2023, when just a matter of weeks after the launch[52] of 3.5, an updated version of the platform was released[53]. Named, inventively[54], ChatGPT4, the new version operates on the basis of a staggering[55] 170tln parameters, compared to[56] its predecessor's[57] 175bln, making it around 100 times more powerful. It "knows" more, "understands" more, and can "say" more.

A Long–promised Future?

Human beings have been envisioning[58] forms of artificial intelligence for centuries. The Greek myth of Pygmalion tells the story of a sculptor[59] who creates a statue so beautiful that he falls in love with[60] it. In the story, the goddess Aphrodite brings the statue to life in response to his prayers, giving it the semblance[61] of intelligence. And there have been many other such fictional imaginings: from Shelley's Frankenstein to Schwarzenegger's Terminator.

But now it appears[62] as though a long-promised future has finally arrived.

OpenAI, the San Francisco-based company behind ChatGPT, was founded[63] as a non-profit research lab in 2015

by a multinational collective of technologists including Elon Musk (who has since resigned from the board[64] but remains an investor), Sam Altman, and Polish computer scientist Wojciech Zaremba.

During its early years, the company focused on[65] developing AI systems capable of playing complex games like Dota 2 and Go, and gained[66] widespread[67] attention for its groundbreaking successes in these areas. Yet whilst this work generated reams[68] and reams of column inches[69] from flesh–and–blood[70] writers fascinated

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36 **data** 'dɑːtə **dane**
37 **to emulate sth** tu 'emjuleɪt 'sʌmθɪŋ **naśladować coś**
38 **neural** 'njʊərəl **nerwowy**
39 **transformer** trænsˈfɔːmə(r) **transformator**
40 **input data** 'ɪnpʊt 'dɑːtə **dane wejściowe**
41 **self-attention** self əˈtenʃn **samouwaga**
42 **to weigh sth** tə weɪ 'sʌmθɪŋ **ważyć coś, tu: ocenić coś**
43 **viable** 'vaɪəbl **tu: realny**
44 **output** 'aʊtpʊt **tu: wynik pracy**
45 **ultimately** 'ʌltɪmətli **ostatecznie, w końcu**
46 **to allow sb/sth to do sth** tu əˈlaʊ 'sʌmbədi/'sʌmθɪŋ tə duː 'sʌmθɪŋ **pozwolić komuś/czemuś na z/robienie czegoś**
47 **to refine sth** tə rɪˈfaɪn 'sʌmθɪŋ **tu: ulepszać**
coś
48 **increasingly** ɪnˈkriːsɪŋli **tu: coraz bardziej**
49 **sophisticated** səˈfɪstɪkeɪtɪd **wyrafinowany**
50 **remarkable** rɪˈmɑːkəbl **tu: niesamowity**
51 **first-hand** fɜːst hænd **z pierwszej ręki**
52 **launch** lɔːntʃ **wypuszczenie**
53 **released** rɪˈliːst **wypuszczony**
54 **inventively** ɪnˈventɪvli **pomysłowo**
55 **staggering** 'stægərɪŋ **szokujący, oszałamiający**
56 **compared to sth** kəmˈpeə(r)d tə 'sʌmθɪŋ **w porównaniu z czymś**
57 **predecessor** 'priːdəsesə(r) **poprzednik**
58 **to envision sth** tu ɪnˈvɪʒn 'sʌmθɪŋ **wyobrażać sobie coś, przewidywać**
59 **sculptor** 'skʌlptə(r) **rzeźbiarz**
60 **to fall in love with sb/sth** tə fɔːl ɪn lʌv wɪð 'sʌmbədi/'sʌmθɪŋ **zakochać się w kimś/czymś**
61 **semblance** 'sembləns **pozory**
62 **to appear** tu əˈpɪə(r) **tu: wyglądać**
63 **founded** faʊndɪd **założony**
64 **board** bɔːd **tu: zarząd**
65 **to focus on sth** tə ˈfəʊkəs ɒn 'sʌmθɪŋ **skupiać się na czymś**
66 **to gain sth** tə geɪn 'sʌmθɪŋ **zdobywać coś**
67 **widespread** 'waɪdspred **szeroko rozpowszechniony**
68 **ream** riːm **ryza**
69 **column inch** kɒləm ɪntʃ **jednostka wysokości kolumny**
70 **flesh-and-blood** fleʃ ənd blʌd **z krwi i kości**