

Chat GPT API Training Cost

The cost to train the chat GPT API to give more well-rounded and beneficial responses to users is as follows:

$$\text{Total Cost} = (\text{Input Cost}) + (\text{Output Cost}) + (\text{Training Cost})$$

$$\text{Training Cost} = (\text{Tokens in training file}/1000) * 0.008 * (\text{epochs trained})$$

$$\text{Input Cost Per User Per Day} = ((\text{tokens per message})/1000) * (\text{messages per day}) * 0.012$$

$$\text{Output Cost Per User Per Day} = ((\text{tokens per response})/1000) * (\text{messages per day}) * 0.016$$

$$\text{Tokens per message} = 22.9875 \text{ (Walsh \& Brinker, 2016)}$$

$$\text{Messages per day} = 0.957143 \text{ (Tam, Wu, Li, \& Qiao, 2022)}$$

$$\text{Tokens per response} = 100 \text{ (hard-coded response length limit)}$$

So,

$$\text{Input Cost Per User Per Day} = \$0.000264028$$

$$\text{Output Cost Per User Per Day} = \$0.00153143$$

$$\text{Total Cost} = \$0.00179546 * \text{users} * \text{days} + (\text{Training Cost})$$

Bibliography

- Tam, C. C., Wu, D., Li, X., & Qiao, S. (2022). Artificial Intelligence (AI)-based Chatbots in Promoting Health Behavioral Changes: A Systematic Review. *medRxiv*.
- Walsh, E., & Brinker, J. K. (2016). Short and Sweet? Length and Informative Content of Open-Ended Responses Using Sms as a Research Mode. *Journal of Computer-Mediated Communication*, 87-100.