

LISTEDRESERVE

# MoneyBits

## Groq\*

Off topic to start, but this really caught my attention and won't be in the AFR for at least six months. I insist you try [groq.com](https://groq.com). Before you do though, I will explain. Programs like GPT-4 and Google's Gemini use enormous amounts of computing power. That is why you access them via the web and don't run them on your own machine. That compute is mostly provided by GPUs which, at least historically, were graphics processing units that also happened to be very good at doing AI computations.

Groq does not do that. It is an entirely new way of processing called an LLM and it is very fast. I asked Groq to explain. It's boring and I did not understand so you can skip it and move to the test.

can you explain an LLM and why it is faster in simple terms

MODIFY

An LLM, or Linked List Merge, is a data structure and algorithm used for sorting and searching data. It is called a "linked list" because the data is stored in a list of nodes, where each node contains a data element and a reference (or "link") to the next node in the list. This allows for efficient insertion and deletion of elements, as you only need to modify the links between the nodes.

The "merge" part of LLM refers to the algorithm used to sort the linked list. It works by dividing the list into two halves, recursively sorting each half, and then merging the two sorted halves back together. This process is repeated until there is only one node left in each half, at which point the two nodes can be merged together in a single pass.

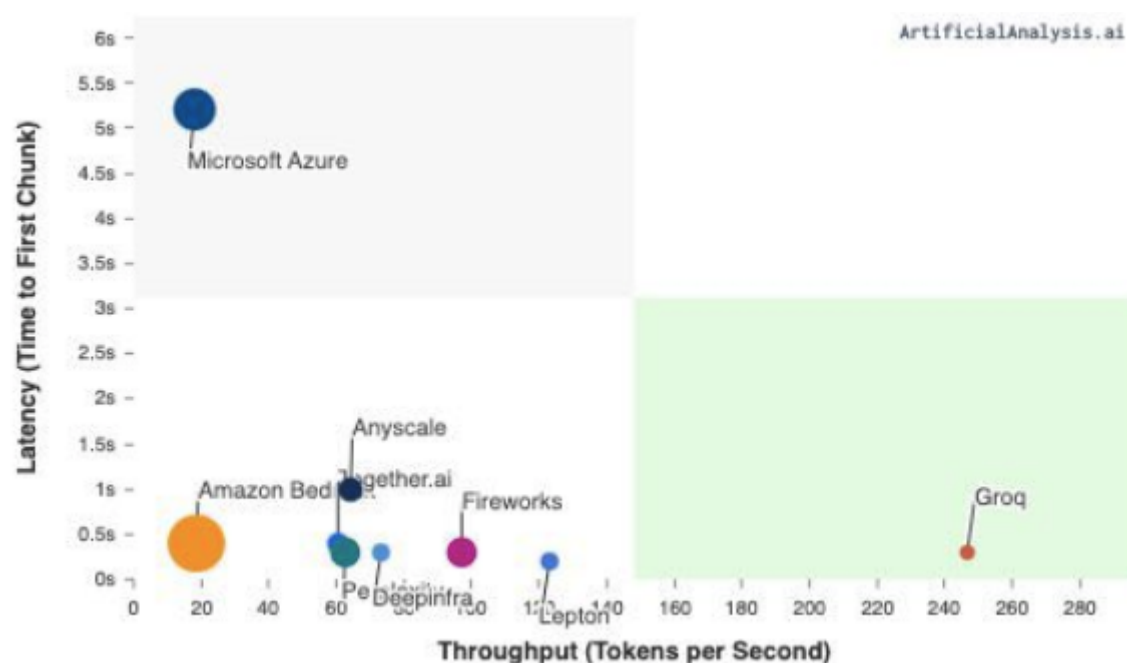
The reason why LLM is faster than other sorting algorithms, such as bubble sort or insertion sort, is because it has a lower time complexity. Specifically, LLM has a time complexity of  $O(n \log n)$ , whereas bubble sort and insertion sort have a time complexity of  $O(n^2)$ . This means that LLM can sort a list of  $n$  elements in roughly  $n \log n$  steps, whereas bubble sort and insertion sort require  $n^2$  steps.

In simple terms, LLM is faster because it divides the problem of sorting a list into smaller, more manageable pieces (the two halves), sorts each piece separately, and then merges the pieces back together. This allows it to sort a list of  $n$  elements in roughly  $n \log n$  steps, which is much faster than other sorting algorithms that require  $n^2$  steps.

Go to [groq.com](https://groq.com) and type "Please translate the first 10 verses of the Book of Genesis to Japanese". It is near instant for something that is quite complex.

Now do the same with [GPT-3.5](https://openai.com). It's free and if you don't have an account by now; why not?

The difference in speed is absolutely incredible, almost an order of magnitude quicker. What this means is we should be able to run these AI models on local machines rather than relying on the intergalactic compute provided by the big US tech firms and that will make all the difference. Groq is almost off the scale in how much faster it is.



This all has not much to do with anything other than the large models are increasingly becoming unreliable because they are so highly censored. You might have seen this week the embarrassment Google suffered after its AI was lobotomised to the point it became unusable; it refused to discuss historic events in case it offended anyone and denied that the second World War even happened because any discussion on that will certainly offend someone along the way.

With this in mind I found this program too, [unleashed.chat](#). This is another example of what I'm talking about. Host your own AI off an open source model that is not lobotomised and pay with ... bitcoin.

It struck me because I believe this will be very much the way of the future. Just as now there is government approved knowledge (like the school curriculum) there is also real knowledge, which you have to find out for yourself. Government approved AI will be used in schools and you can/will use your credit card. Once again, if you want to play fairy tales you will be able to pay with fairy tale money. If you want the real deal; pay with bitcoin.

Crucially though, most of us do not have the compute at home to make something like unleashed.chat work well enough to want to use it. Groq.com changes that. Right now you have a censored version of all human knowledge at your fingertips hosted by a third party who can read your mind (and steal your IP) by seeing the sorts of things you are asking. Soon, you will be able to run an uncensored version on your own machine without an internet connection.

It's a very big deal; follow them [here](#).

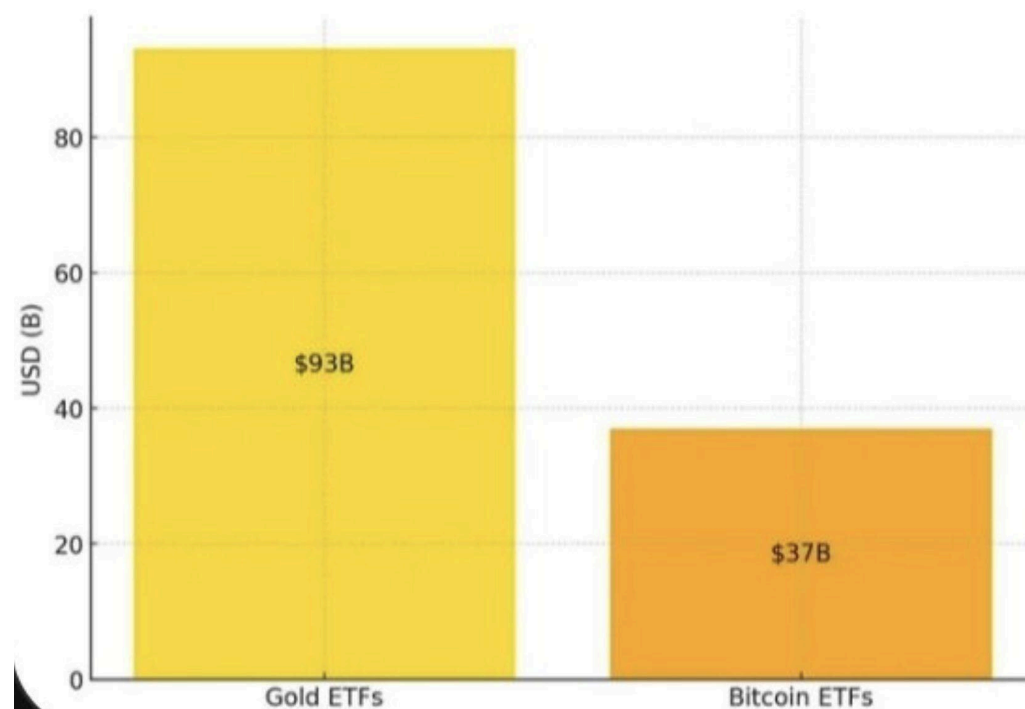
\* *Grok derived from Grok: to understand profoundly and intuitively.*  
— Robert Heinlein, *Stranger in a Strange Land* (1961). A good book.

---

## Gold

The archetypal store of value. Indian housewives to American billionaires have historically hoarded gold. Why? Because it cannot be debased by someone else and is therefore immune to politics and human influence. The first gold ETF launched in 2004 to some considerable fanfare. It was considered a huge success reaching \$1 billion in AUM in its first 30 days.

20 years on and \$93 billion now sits in gold ETFs.



Compare that to Bitcoin ETFs which are 0.08 years old with \$37 billion in AUM. It is misleading to say all of that is new because \$20 billion sat in the Grayscale Trust at launch. But still, 40% of gold in just over a month.

Which is why I say to people I believe the Bitcoin market cap will surpass that of gold. I don't know when but it will. At that point one bitcoin would be worth \$700,000; which of course, sounds totally ridiculous.

You would be right to laugh at me for this because it is funny. I laughed at this for example, which is less funny if you are watching the yellow metal slowly demonetise. We all laugh at different things I guess, depending on our point of view.



---

### Pay me in bitcoin

Look at what they do, not what they say.

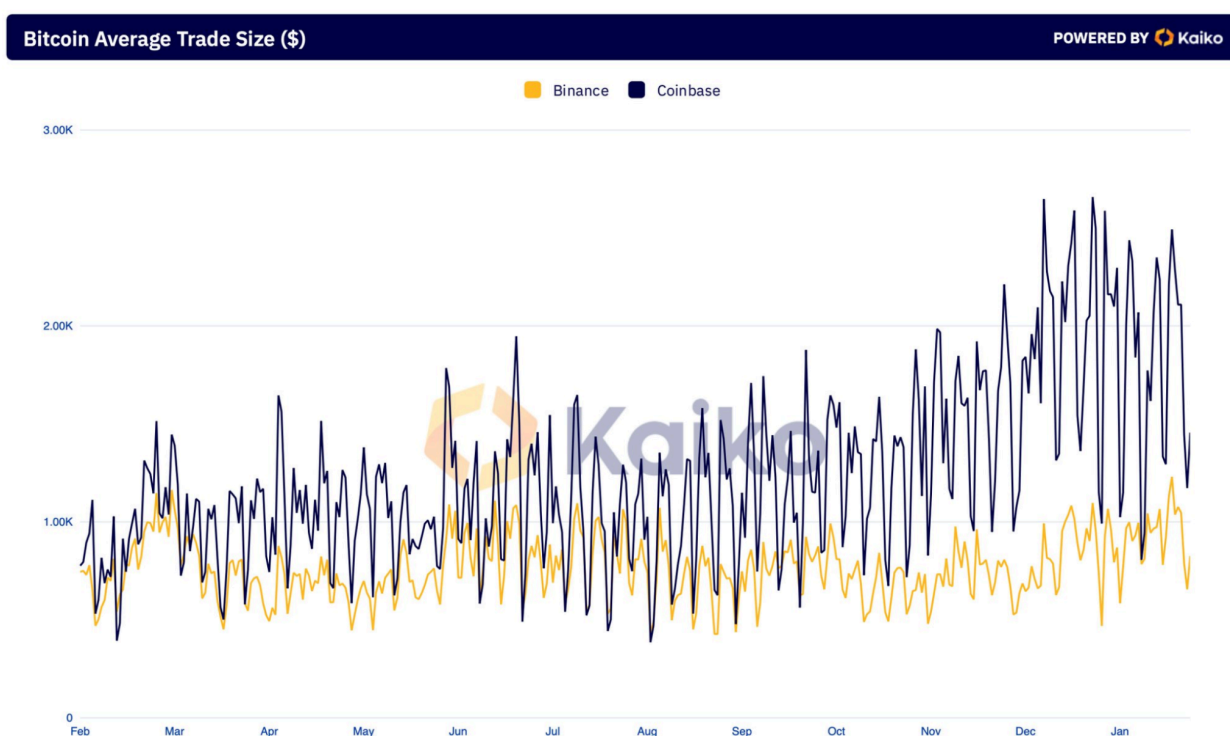
So it is with Boris Johnson, who when invited for an interview with Tucker Carlson to discuss Ukraine, allegedly replied, "I will, but I want \$1 million in gold or bitcoin."

"Boris Johnson calls me a tool of the Kremlin or something...So I put in a request for an interview with Boris Johnson," Carlson said. "Finally one of his advisors gets back to me and says he will talk to you but it's going to cost you a million dollars. He wants a million dollars, in gold or Bitcoin."

I have nothing to add.

---

### Trade Size



Nice chart here from Kaiko. You can immediately see the impact of the ETF on bitcoin trade sizes. Since Coinbase is conducting most of them they have seen a near doubling in size while Binance has remained flat.

Most interesting to me though is that the trade size increased at least a month and a half before the ETFs launched which suggests the big players have been getting themselves set in advance. That has kept a lid on price in the short term.

Mere hypothesis, but if it is true one would think the stores of bitcoin in the BlackRock cupboard will run out rather shortly.

---

## Euro-Trash

Every week, I fairly serve it up to the Europeans. Whether it be their obscure regulations or their insistence on regulating technology to the point it is no longer useful.

Last week I spent a few days there and made some minor observations.

Bitcoin was *everywhere* in Geneva, of all places. After all, Barack Obama described bitcoin as a “Swiss Bank Account inside your own head”. It would seem in Switzerland, if you can’t beat them, join them and the banks have done so. There were ads all over the airport and on every street corner about how “your bank can facilitate crypto trades and custody” etc.

Over the border in France I met someone from Yorkshire who was driving a Ford Ranger beloved of so many Australians. It struck me because it was the only time I saw that car in Europe. His explanation:

*“that’s because the car cost me 40,000 and then a 35,000 tax because it has a big engine.”*

It seemed bonkers to me not just because the tax was so high but a Yorkshireman had chosen to pay it!

The truth is, I enjoyed Europe. The food was great as was the winter sunshine. Nobody seems to care that much about the occasional tax insanity and they just go about their business with a belly full of excellent croissants.

Normal Euro-Trashing will resume next week.