



CULTURE COUNCIL

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What's This?

# THE GREAT COMPUTING POWER CHASE: WHY IT MATTERS AND HOW WE'LL WIN

Yes, the demand for computing power is skyrocketing. But so too are our solutions for meeting this demand sustainably.

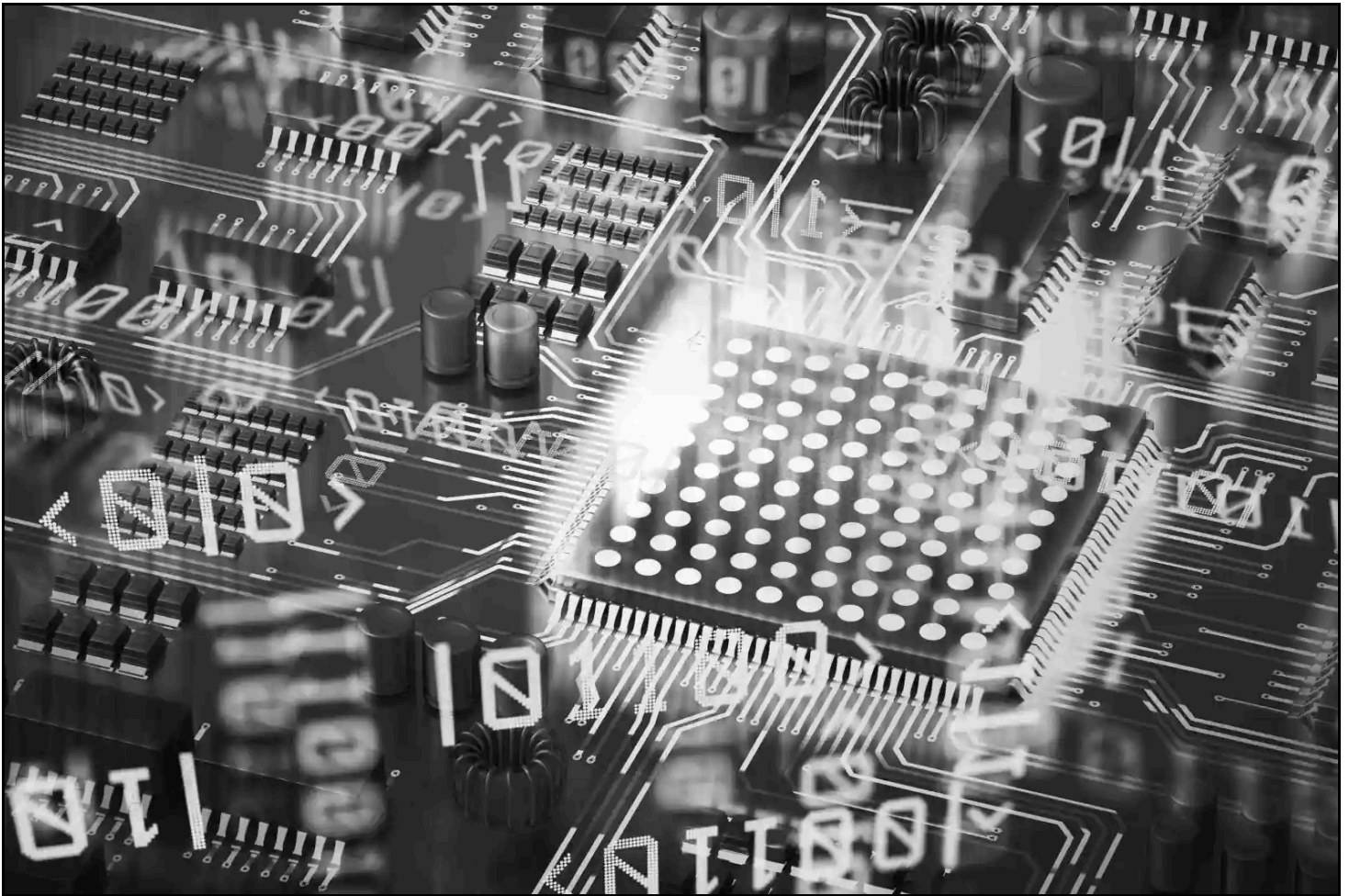
By JESSICA BILLINGSLEY

JULY 11, 2024

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We live in a world where every gadget, car, and even our homes are becoming brainier. This braininess, or “**computing** power,” is the magic sauce that makes everything smart and efficient. But recently, there’s been a lot of noise about this magic sauce running out.

People used to worry that Bitcoin would gobble up all our electricity. Now, they fret that artificial intelligence (AI) will do the same. Gryphon Digital Mining, on whose board I serve, is a company that champions carbon-neutral power, and I’m here to tell you why computing power is vital, why we’re not doomed and where the real opportunities lie.

## The Hungry Giants of Today

Let’s dive into what’s eating up all this computing power:

- **Cloud Computing Services:** Think of colossal, invisible war humming away. These digital behemoths, run by Amazon, Google, and Microsoft, are powering our emails, streaming, and even this article you’re reading, ensuring everything runs smoothly and efficiently.

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- **Enterprise Data Centers:** Imagine the backstage crew of a major Broadway show. These unsung heroes ensure the spotlight shines on the stars without a hitch. In the business world, enterprise data centers play a similar role. They handle mountains of data for industries like banking, healthcare, and retail, making sure everything runs like clockwork behind the scenes.
- **Telecommunications and Internet Services:** Picture a vast network of highways crisscrossing the globe, zipping traffic along at breakneck speeds. This is the lifeline of our internet and telecommunications services, ensuring our video calls are crystal clear and our streaming is buffer-free. These systems are the digital arteries of modern communication, keeping us all connected.
- **Artificial Intelligence and Machine Learning:** AI is like an eager student, always learning and growing. It needs a massive amount of data and computing power to understand and predict everything from your next favorite song to how to navigate a self-driving car. AI is slowly but surely transforming every aspect of our lives, making things smarter and more efficient.

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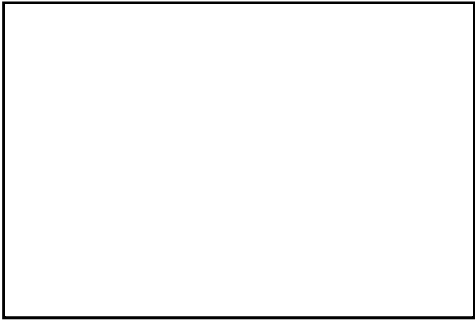
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The 250 Greatest Albums of the 21st Century So Far

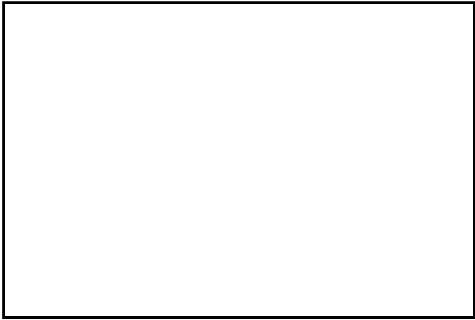
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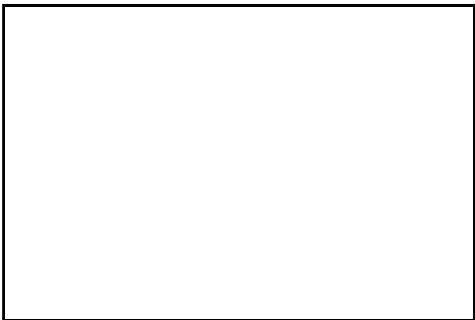
### The 100 Best TV Episodes of All Time



### The 500 Greatest Albums of All Time



### 100 Best Movies of the 21st Century



- **Scientific Research:** Think of towering giants who can crunch data at mind-boggling speeds. These are supercomputers, the titans of the computing world. They help scientists simulate climate change, discover new drugs, and unlock the mysteries of the universe. Their immense power fuels groundbreaking discoveries and innovations across various fields of research.
- **Gaming and Entertainment:** Envision stepping into vibrant, lifelike worlds in your favorite video game or enjoying seamless, high-definition streaming of your top shows. This level of detail and smoothness requires enormous computing resources to create and deliver. Gaming and entertainment are significant consumers of computing power, driving innovation in graphics and processing.
- **Cryptocurrency Mining:** Imagine a digital gold rush, where virtual coins. This process, while potentially lucrative, is incredibly demanding, requiring vast amounts of computing power to solve complex mathematical problems on the blockchain, making it one of the most energy-intensive activities.

With these digital giants at play, it's clear why computing power in the future holds even more promise — and some innovative solutions.

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## The Future's Bright and Busy

Looking ahead, the demand for computing power is only going to skyrocket. Here's where I predict the big growth will happen:

- **Artificial Intelligence and Machine Learning:** AI is growing like a rocket, aiming for more advanced applications in medicine, finance and beyond.
- **Cloud and Edge Computing:** The cloud will expand, but edge computing will rise too, bringing power closer to where data is generated, like in smart cities and autonomous vehicles.
- **Quantum Computing:** Imagine a supercharged brain capable of solving problems in seconds that would take today's computers centuries. Quantum computing holds this promise.

These advancements will demand even more computing power, but innovation is always up to the challenge. In the next section, we'll explore the groundbreaking solutions ready to meet this growing demand.

## Technology: The Ultimate Problem Solver

Despite growing demands, technology often develops a solution just in time to solve its own problems. Here are a few solutions on the horizon:

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- **Exascale Supercomputing:** These future giants will be a thousand times more powerful than today's supercomputers, unlocking new possibilities in science and industry.
- **Neuromorphic Computing:** Inspired by the human brain, these systems will offer incredible efficiency for tasks like pattern recognition and sensory processing.
- **Optical Computing:** Using light instead of electricity, optical computing could drastically increase speeds and reduce energy consumption.
- **Edge Computing:** By processing data locally, edge computing reduces the load on centralized data centers and speeds up responses.

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These innovations ensure that as our need for computing power grows, we'll have the technology to meet it head-on. In the end, technology often finds a way to advance and solve its own challenges.

## Conclusion

Yes, the demand for computing power is skyrocketing. But so too are our solutions for meeting this demand sustainably. Quantum computing, when it arrives, will revolutionize everything, making today's concerns look like child's play. The sky is not falling. Instead, it's a sky full of opportunities waiting to be seized. I plan to focus on those opportunities — and you should too.

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