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- Defensive vs. offensive AI: Why security teams are losing the AI war

WHO WILL COMPETE WITH CHATGPT? MEET THE CONTENDERS | THE AI BEAT

Source: VentureBeat

Today, ChatGPT is two months old. Yes, believe it or not, it was less than nine weeks ago that OpenAI launched what it simply described as an "early demo" a part of the GPT-3.5 series — an interactive, conversational model whose dialogue format "makes it possible for ChatGPT to answer followup questions, admit its mistakes, challenge incorrect premises, and reject inappropriate requests."

ChatGPT quickly caught the imagination — and feverish excitement — of both the AI community and the general public. Since then, the tool's possibilities as well as limitations and hidden dangers have been well established, and any hints of slowing down its development were quickly dashed when Microsoft announced its plans to invest billions more into OpenAI. Here are four top players potentially making moves to challenge ChatGPT:

Anthropic: Claude

According to a *New York Times* article last Friday, Anthropic, a San Francisco startup, is close to raising roughly $300 million in new funding, which could value the company at around $5 billion. Keep in mind that Anthropic has always had money to burn: Founded in 2021 by several researchers who left OpenAI, it gained more attention last April when, after less than a year in existence, it suddenly announced a whopping $580 million in funding — which, it turns out, mostly came from Sam Bankman-Fried and the folks at FTX, the now-bankrupt cryptocurrency platform accused of fraud. There have been questions as to whether that money could be recovered by a bankruptcy court.

Anthropic developed an AI chatbot, Claude — available in closed beta through a Slack integration — that reports say is similar to ChatGPT and has even demonstrated improvements. Anthropic, which describes itself as "working to build reliable, interpretable, and steerable AI systems," created Claude using a process called "Constitutional AI," which it says is based on concepts such as beneficence, non-maleficence and autonomy. According to an Anthropic paper detailing Constitutional AI, the process involves a supervised learning and a reinforcement learning phase:

"As a result we are able to train a harmless but non-evasive AI assistant that engages with harmful queries by explaining its objections to them."

DeepMind: Sparrow

In a TIME article two weeks ago, DeepMind's CEO and cofounder Demis Hassabis said that DeepMind is is considering releasing its chatbot Sparrow in a "private beta" sometime in 2023. In the article, Hassabis said it is "right to be cautious" in its release, so that the company can work on reinforcement learning-based features like citing sources — something ChatGPT does not have. DeepMind, which is the British-owned subsidiary of Google parent company Alphabet, introduced Sparrow in a paper in September. It was hailed as an important step toward creating safer, less-biased machine learning (ML) systems, thanks to its application of reinforcement learning based on input from human research participants for training. DeepMind says Sparrow is a "dialogue agent that's useful and reduces the risk of unsafe and inappropriate answers." The agent is designed to "talk with a user, answer questions and search the internet using Google when it's helpful to look up evidence to inform its responses."

Google: LaMDA

You might remember LaMDA from last summer's "AI sentience" whirlwind, when Blake Lemoine, a Google engineer, was fired due to his claims that LaMDA — short for Language Model for Dialogue Applications — was sentient. Like ChatGPT, LaMDA is built on Transformer, the neural network architecture that Google Research invented and open-sourced in 2017. The Transformer architecture "produces a model that can be trained to read many words (a sentence or paragraph, for example), pay attention to how those words relate to one another and then predict what words it thinks will come next.

AI-POWERED BRAIN IMPLANT SMASHES SPEED RECORD FOR TURNING THOUGHTS INTO TEXT

Source: SingularityHub

We speak at a rate of roughly 160 words every minute. That speed is incredibly difficult to achieve for speech brain implants. Decades in the making, speech implants use tiny electrode arrays inserted into the brain to measure neural activity, with the goal of transforming thoughts into text or sound. They're invaluable for people who lose their ability to speak due to paralysis, disease, or other injuries. But they're also incredibly slow, slashing word count per minute nearly ten-fold. Like a slow-loading web page or audio file, the delay can get frustrating for everyday conversations.

A team led by Drs. Krishna Shenoy and Jaimie Henderson at Stanford University is closing that speed gap. Published on the preprint server bioRxiv, their study helped a 67-year-old woman restore her ability to communicate with the outside world using brain implants at a record-breaking speed. Known as "T12," the woman gradually lost her speech from amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease, which progressively robs the brain's ability to control muscles in the body. T12 could still vocalize sounds when trying to speak—but the words came out unintelligible.

With her implant, T12's attempts at speech are now decoded in real time as text on a screen and spoken aloud with a computerized voice, including phrases like "it's just tough," or "I enjoy them coming." The words came fast and furious at 62 per minute, over three times the speed of previous records. It's not just a need for speed. The study also tapped into the largest vocabulary library used for speech decoding using an implant—at roughly 125,000 words—in a first demonstration on that scale.

To be clear, although it was a "big breakthrough" and reached "impressive new performance benchmarks" according to experts, the study hasn't yet been peer-reviewed and the results are limited to the one participant.

That said, the underlying technology isn't limited to ALS. The boost in speech recognition stems from a marriage between RNNs—recurrent neural networks, a machine learning algorithm previously effective at decoding neural signals—and language models. When further tested, the setup could pave the way to enable people with severe paralysis, stroke, or locked-in syndrome to casually chat with their loved ones using just their thoughts.

We're beginning to "approach the speed of natural conversation," the authors said.

Loss for Words

The team is no stranger to giving people back their powers of speech. As part of BrainGate, a pioneering global collaboration for restoring communications using brain implants, the team envisioned—and then realized—the ability to restore communications using neural signals from the brain. In 2021, they engineered a brain-computer interface (BCI) that helped a person with spinal cord injury and paralysis type with his mind. With a 96 microelectrode array inserted into the motor areas of the patient's brain, the team was able to decode brain signals for different letters as he imagined the motions for writing each character, achieving a sort of "mindtexting" with over 94 percent accuracy. The problem? The speed was roughly 90 characters per minute at most. While a large improvement from previous setups, it was still painfully slow for daily use. So why not tap directly into the speech centers of the brain? Regardless of language, decoding speech is a nightmare. Small and often subconscious movements of the tongue and surrounding muscles can trigger vastly different clusters of sounds—also known as phonemes. Trying to link the brain activity of every single twitch of a facial muscle or flicker of the tongue to a sound is a herculean task.

Hacking Speech

The new study, a part of the BrainGate2 Neural Interface System trial, used a clever workaround. The team first placed four strategically located electrode microarrays into the outer layer of T12's brain. Two were inserted into areas that control movements around the mouth's surrounding facial muscles. The other two tapped straight into the brain's "language center," which is called Broca's area. In theory, the placement was a genius two-in-one: it captured both what the person wanted to say, and the actual execution of speech through muscle movements.

Nation-states and cybercriminal gangs share a goal: To weaponize AI

Eighty-eight percent of CISOs and security leaders say that weaponized AI attacks are inevitable, and with good reason. Just 24% of cybersecurity teams are fully prepared to manage an AI-related attack, according to a recent Gartner survey. Nation-states and cybercriminal gangs know that enterprises are understaffed, and that many lack AI and ML expertise and tools to defend against such attacks. In Q3 2022, out of a pool of 53,760 cybersecurity applicants, only 1% had AI skills.

HEADLINE NEWS IN A FLASH

CHATGPT IS JUST THE 'TIP OF THE ICEBERG' IN CONTENT-CREATING ARTIFICIAL INTELLIGENCE; GET READY FOR 'A LOT OF DISRUPTION'

Artificial intelligence-powered ChatGPT arrived in a firestorm nine weeks ago, wowing the tech world with its ability to do everything from composing a high school essay to debugging complex computer code. Investors quickly fastened on how the groundbreaking content-creation tool from startup OpenAI posed a threat to Google stock and the search giant's market share. But ChatGPT is much more than just a peril to Google and its parent company Alphabet (GOOGL). And it's only one of many "generative AI" technologies that could roil a host of industries by creating text, images, video and computer programming code on their own. The technology quickly captured the attention of tech giants. One was Microsoft (MSFT), which doubled down on its early investment in the company. Microsoft said Jan. 23 that it's making a "multiyear, multibillion-dollar investment" in OpenAI. It invested $1 billion in OpenAI in 2019. *Source: Investors*

NVIDIA BOOSTS GENERATIVE AI FOR BIOLOGY WITH BIONEMO

In September 2022, Nvidia announced the launch of its BioNeMo Large Language Model (LLM) service to help researchers build new artificial intelligence (AI) models for biology and it's an effort that has yielded some strong early results. Today, Nvidia, along with biotech startup Evozyne, are announcing that BioNeMo was used to help build a new generative AI model that could have a significant impact on helping improve human health as well as climate change. The generative AI model was used to create a pair of new proteins that are being detailed today. One of the proteins could one day be used to reduce carbon dioxide, while the other might help to cure congenital diseases. "Proteins are the building blocks of life," Kimberly Powell, VP of healthcare at Nvidia, said during a press briefing. "The field of protein engineering looks to discover new proteins that can help us design more effective drugs, remove carbon from the air or make more environmentally friendly clothes." *Source: VentureBeat*

SAMSUNG BRINGS GENERATIVE AI ART AND PERSONALIZATION TO REFRIGERATORS

Samsung is announcing that its Bespoke line of custom appliance decorations will enable a form of generative AI art on its refrigerators and more. With MyBespoke, the company will tap a combination of a human artist with generative AI art to make a collection of art available for its appliances. The company's latest line of refrigerators will have a Bespoke refrigerator that can be personalized with your original designs, artwork or favorite photos. MyBespoke custom panels help inspire you to create a one-of-a-kind fridge so you can personalize your kitchen. Samsung said MyBespoke embraces home design trends that express personality and style using new materials, colors and artful designs. You can design your one-of-a-kind MyBespoke fridge panels with one or both French Doors and Samsung will deliver them to your home. You can create your own design when you purchase a Bespoke refrigerator from Samsung.com.

Source: VentureBeat

AI CHALLENGE TO PREDICT HEAT WAVE, AIR QUALITY UNVEILED

The Telangana AI Mission (T-AIM), in partnership with Capgemini, has announced the launch of an academic grand challenge, for college students, to foster innovation to mitigate risks of climate change.The aim is to scout for innovative and viable solutions using emerging technologies like Artificial Intelligence (AI) to understand climate change better. Under the challenge, student teams from colleges across India are expected to build solutions to predict heat wave occurrences and air quality index (AQI) for five cities in Telangana – Adilabad, Nizamabad, Warangal, Karimnagar, and Khammam. The top 10 teams will receive a combined seed funding worth ₹10 lakh and mentoring from the industry and other enabling organisations. The challenge is open to all student innovators, T-AIM said in a release on Thursday. The teams will be selected based on their ability to understand code and the approach to solve the problem. *Source: TheHindu*

DEFENSIVE VS. OFFENSIVE AI: WHY SECURITY TEAMS ARE LOSING THE AI WAR

Weaponizing artificial intelligence (AI) to attack understaffed enterprises that lack AI and machine learning (ML) expertise is giving bad actors the edge in the ongoing AI cyberwar. Innovating at faster speeds than the most efficient enterprise, capable of recruiting talent to create new malware and test attack techniques, and using AI to alter attack strategies in real time, threat actors have a significant advantage over most enterprises. "AI is already being used by criminals to overcome some of the world's cybersecurity measures," warns Johan Gerber, executive vice president of security and cyber innovation at MasterCard. "But AI has to be part of our future, of how we attack and address cybersecurity." Enterprises are willing to spend on AI-based solutions, evidenced by an AI and cybersecurity forecast from CEPS. that they will grow at a compound annual growth rate (CAGR) of 23.6% from 2020 to 2027 to reach a market value of $46.3 billion by 2027.

Source: VentureBeat

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Source: VentureBeat

CATALYST

Y:WAIT

Young Women in AI and Technology

Who are we?

Y:WAIT is a student-led organisation built to support young women in STEM involved in the application of AI, Sciences and Technology in the work we do.

What can you expect?

- Global mentorship and advisory network
- Company visits catered to young students interested in pursuing careers in the technology industry
- Seminars and webinars with esteemed speakers from all over the globe
- Nationwide & Gglobal competitions/hackathons designed to encourage innovation in AI, especially for female youths

What is our purpose?

Raise awareness and promote interest about young women in STEM, create new and innovative ideas, build connections and partnerships within the industry and form new ventures that create impact; a movement that encourages the question: why wait?

https://ceaiglobal.com/ywait/

YWAIT.CO@GMAIL.COM
KIERA@CEAIGLOBAL.COM

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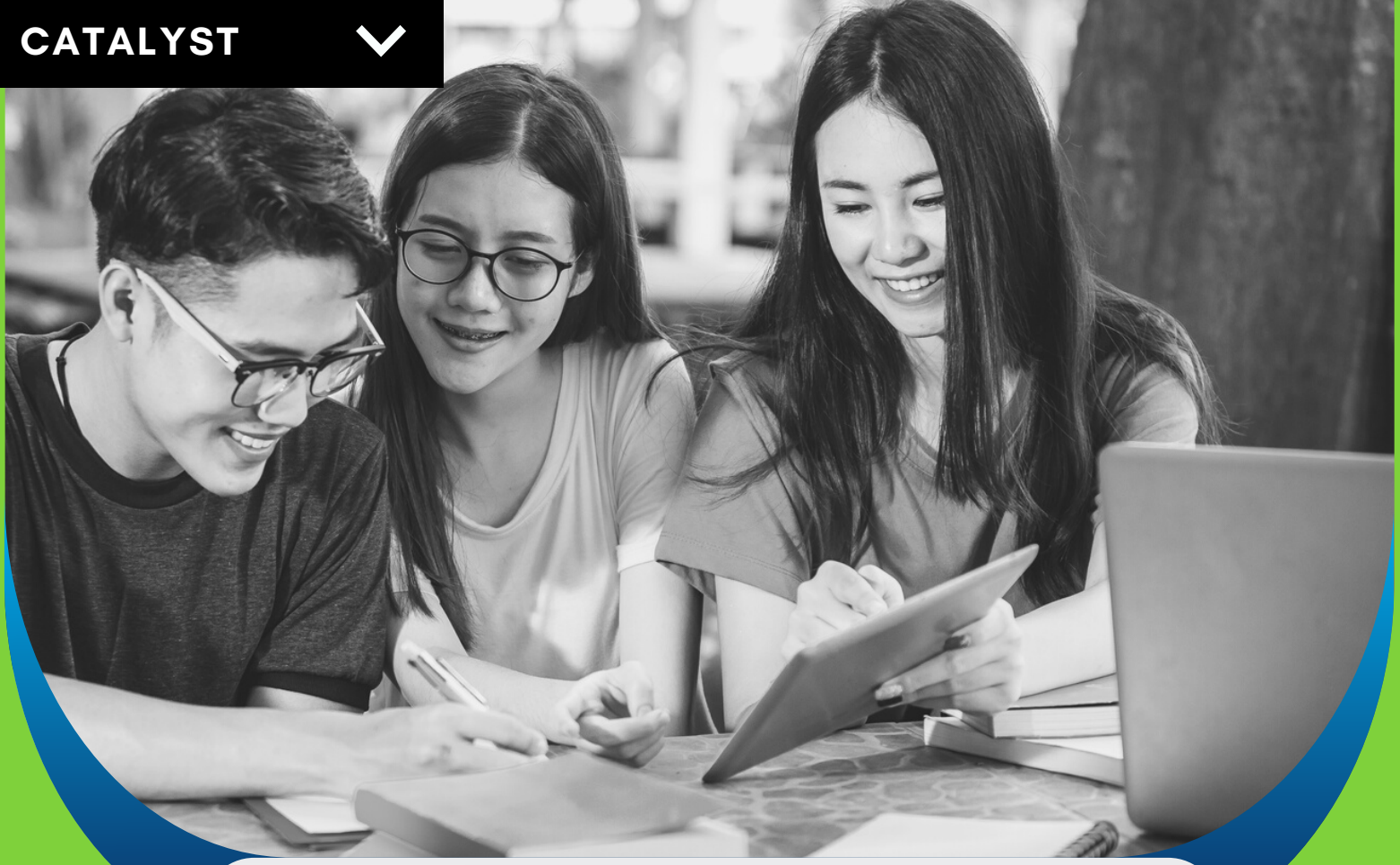

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MyFinB is an award-winning tech company that specializes in artificial intelligence. The company developed its own natural language platform with predictive and prescriptive narrative capabilities - a niche area that differentiates itself from any others. MyFinB helps people understand and communicate what is most important in their data. By transforming data into insightful, human-like language, the company's natural language technology enables people to be data-driven and make better decisions, focus talent on higher-value opportunities, and create differentiated products.

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Website: www.myfinb.com Email: enquiry@myfinb.com

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AIV50 is a tech venture company with a portfolio of 50 AI assets in 10 key verticals. The special purpose company forms part of a joint incubation and venture building project by MyFinB Group (MFB) and VSC Portfolio Investments (VSCPI).

Website: www.aiv50.com Email: ventures@aiv50.com

THE ACCOUNTING AND FINANCE GROUP IN AI (TAFGAI)

TAFGAI is set up to help accounting firms and infuse their operations with our proprietary AI expert systems. The immediate goal is to transform their businesses, making them leaner, more tech-proficient and value adding to their clients using AI in 10 key areas. This will have the effect of positive revaluation of the firms, with healthy topline and bottomline along with a decent multiplier.

Website: www.tafgai.com

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Website: www.myfinb.com/sofinaa

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Global Chamber's vision is a world where doing cross metro and cross border business is as easy as selling across the street. It also provides members with virtual connections, training, and information just right to grow... helping members connect with customers, partners and experts to grow across metros and borders. When members engage with Global Chamber, risk is reduced, and growth accelerates.

Website: www.globalchamber.org

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KCCI is a non-government, not-for-profit organization registered under the Central Government's Ministry of Corporate Affairs playing a proactive role in India's development process and become aKnowledge voice of India's business and industry.

Website: www.knowledgechamber.org Email: info@knowledgechamber.org

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The Suryadatta Education Foundation, SEF, is a charitable trust registered with the Registrar of Societies, Government of Maharashtra. The Suryadatta Group of Institutes was established in the year 1999, with the blessing of Late Smt Ratanbai & Shri Bansilalji Chordiya in Pune - The Oxford of East.

Website: www.suryadatta.org Email: info@suryadatta.edu.in

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Established in 1927, FICCI is the largest and oldest apex business organisation in India. Its history is closely interwoven with India's struggle for independence, its industrialization, and its emergence as one of the most rapidly growing global economies. A non-government, not-for-profit organisation, FICCI is the voice of India's business and industry.

Website: www.ficci.in

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- Pioneered the Entrepreneurship Development Programme (EDP) Model.
- Ranked as Number 1 by Atal Ranking of Institutions on Innovation Achievements (ARIIA) – 2021 in General (Non-Technical) Category. The only institute from Gujarat to be ranked as Number 1 across all seven categories.

Website: www.ediindia.org

WOMEN ENTREPRENEURSHIP CELL

Women Entrepreneurship Cell under Kadi Sarva Vishwavidyalaya (KSV), managed by Sarva Vidyalaya Kelavani Mandal, Kadi and Gandhinagar, Gujarat, India, established in 2016, to ignite the spirit of Entrepreneurship amongst our students. In the current era, countries should create more support systems for encouraging entrepreneurship among students. At the same time, it is to foster gender equality to break away from stereotyped mindsets.

Website: www.wecksv.org

KADI SARVA VISHWAVIDYALAYA

Kadi Sarva Vishwavidyalaya is a University established vide Gujarat State Government Act 21 of 2007 in May 2007 and approved by UGC (ref F. 9-18/2008(cpp-1) March 19,2009). The University has been established by Sarva Vidyalaya Kelavani Mandal to achieve the following objectives: To provide need-based education and develop courses of contemporary relevance. To be a University of excellence by providing research-based activities which would foster higher economic growth. To provide education to all irrespective of caste, creed, religion etc. The University has at present 19 Constituent Colleges/Departments at Gandhinagar and Kadi.

Website: www.ksv.ac.in

BE PHENOMENAL

Dr. Rachana specialized in Cosmetic Dentistry from State University of New York. After rendering her services to the medical field and its beneficiaries for a decade, she decided to contribute to her family business when she did her MBA from Nirma University with Gold Medal. Furthering the growth of human centric business approach, she successfully completed her course in Executive Education in Design Thinking from Stanford University.

Website: bephenomenal.co.in

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The Centre for AI Innovation (CEAI) forms part of MyFinB Venture's portfolio of innovative, disruptive projects to guide and support the digital transformation initiatives by organisations and business innovators.

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'The AI World Summit: Where Innovators & Disruptors Meet to Challenge Limits' brings together the global AI community from a range of businesses, science and tech to go beyond the buzz and hype, discuss the most burning AI issues, share their developments, successes, challenges, and the resultant impact on their businesses.

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