

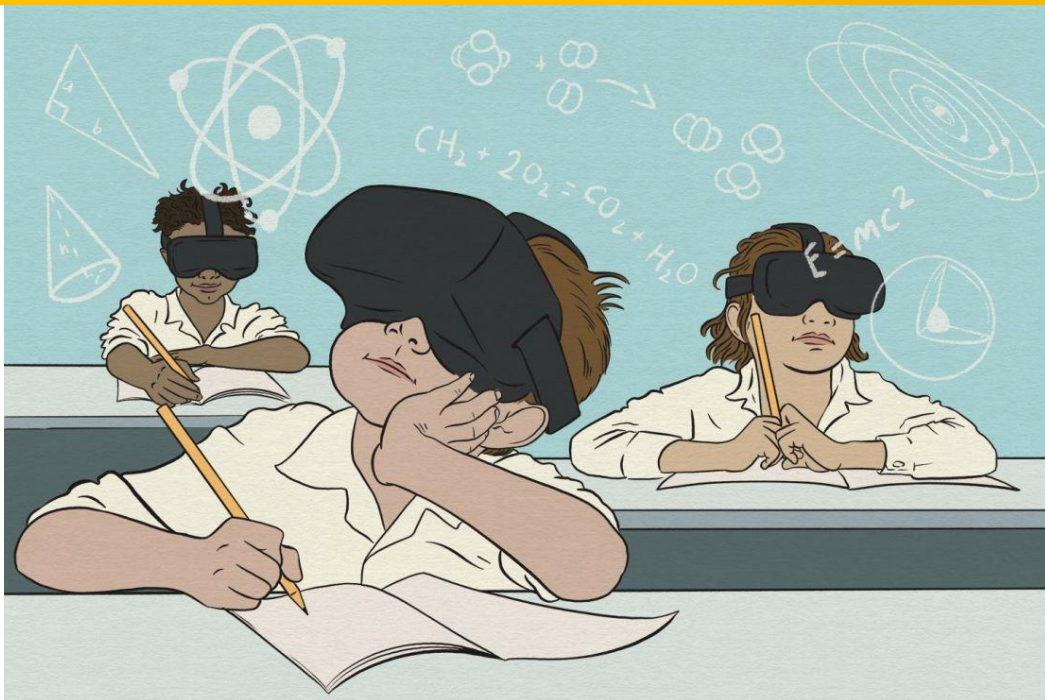


How technology is reinventing education

New advances in technology are upending education, from the recent debut of new artificial intelligence (AI) chatbots like ChatGPT to the growing accessibility of virtual-reality tools that expand the boundaries of the classroom. For educators, at the heart of it all is the hope that every learner gets an equal chance to develop the skills they need to succeed. But that promise is not without its pitfalls.

AI in the classroom

In 2023, the big story in technology and education was generative AI, following the introduction of ChatGPT and other chatbots that produce text seemingly written by a human in response to a question or prompt. Educators immediately worried that students would use the chatbot to cheat by trying to pass its writing off as their own. As schools move to adopt policies around students' use of the tool, many are also beginning to explore potential opportunities – for example, to generate reading assignments



or coach students during the writing process.

AI can also help automate tasks like grading and lesson planning, freeing teachers to do the human work that drew them into the profession in the first place, said Victor Lee, an associate professor at the GSE and faculty lead for the AI + Education initiative at the Stanford Accelerator for Learning. “I’m heartened to see some movement toward creating AI tools that make teachers’ lives better – not to replace them, but to give them the time to do the work that only teachers are able to do,”

he said. “I hope to see more on that front.”

He also emphasized the need to teach students now to begin questioning and critiquing the development and use of AI. “AI is not going away,” said Lee, who is also director of CRAFT (Classroom-Ready Resources about AI for Teaching), which provides free resources to help teach AI literacy to high school students across subject areas. “We need to teach students how to understand and think critically about this technology.”



Immersive environments

The use of immersive technologies like augmented reality, virtual reality, and mixed reality is also expected to surge in the classroom, especially as new high-profile devices integrating these realities hit the marketplace in 2024.

The educational possibilities now go beyond putting on a headset and experiencing life in a distant location. With new technologies, students can create their own local interactive 360-degree scenarios, using just a cell phone or inexpensive camera and simple online tools.

“This is an area that’s really going to explode over the next

couple of years,” said Kristen Pilner Blair, director of research for the Digital Learning initiative at the Stanford Accelerator for Learning, which runs a program exploring the use of virtual field trips to promote learning. “Students can learn about the effects of climate change, say, by virtually experiencing the impact on a particular environment. But they can also become creators, documenting and sharing immersive media that shows the effects where they live.”

Integrating AI into virtual simulations could also soon take the experience to another level, Schwartz said. “If your VR experience brings me to a redwood tree, you could have a

window pop up that allows me to ask questions about the tree, and AI can deliver the answers.”

Gamification

Another trend expected to intensify this year is the gamification of learning activities, often featuring dynamic videos with interactive elements to engage and hold students’ attention.

“Gamification is a good motivator, because one key aspect is reward, which is very powerful,” said Schwartz. The downside? Rewards are specific to the activity at hand, which may not extend to learning more generally. “If I get rewarded for doing math in a space-age video game, it doesn’t mean I’m going to be motivated to do math anywhere else.”

Gamification sometimes tries to make “chocolate-covered broccoli,” Schwartz said, by adding art and rewards to make speeded response tasks involving single-answer, factual questions more fun. He hopes to see more creative play patterns that give students points for rethinking an approach or adapting their strategy, rather than only



rewarding them for quickly producing a correct response.

Data-gathering and analysis

The growing use of technology in schools is producing massive amounts of data on students’ activities in the classroom and online. “We’re now able to capture moment-to-moment data, every keystroke a kid makes,” said Schwartz – data that can reveal areas of struggle and different learning opportunities, from solving a math problem to approaching a writing assignment.

But outside of research settings, he said, that type of granular data – now owned by tech companies – is more likely used to refine the design of the software than to provide teachers with actionable information.

The promise of personalized learning is being able to generate content aligned with students’ interests and skill levels, and making lessons more accessible for multilingual learners and students with disabilities. Realizing that promise requires that educators can make sense of the data that’s being collected, said

Schwartz – and while advances in AI are making it easier to identify patterns and findings, the data also needs to be in a system and form educators can access and analyze for decision-making. Developing a usable infrastructure for that data, Schwartz said, is an important next step.

With the accumulation of student data comes privacy concerns: How is the data being collected? Are there regulations or guidelines around its use in decision-making? What steps are being taken to prevent unauthorized access? In 2023 K-12 schools experienced a rise in cyberattacks, underscoring the need to implement strong systems to safeguard student data.

Technology is “requiring people to check their assumptions about education,” said Schwartz, noting that AI in particular is very efficient at replicating biases and automating the way things have been done in the past, including poor models of instruction. “

Apply for the Global IT Scholarship Program

Global Information Technology is proud to provide the GIT Scholarship Program. Every month, this scholarship will be awarded to highly driven individuals wanting to begin or advance their IT career.

Exclusively, the scholarship will provide a grant of \$2,500.00 towards any certification course or remote live training at GIT.

GIT created this opportunity to give back to the community and spread our desire to help those in need. We believe that learning is essential and we will continue to help and develop individuals to help them succeed in their personal development goals. Apply here:

<https://www.global-itech.com/the-global-it-scholarship/>





Quick and to the point Career Advice

Question: *“Andrei, I was just offered the job of my dreams with the company I’d been with for the last 10 years, BUT, the salary they presented is nowhere near what I want or need it to be. How do I negotiate a better deal without coming across as playing hardball or someone who’s only concerned with money??”*
– Rachel Pendelton

Answer: First, congratulations is indeed in order!

When preparing to negotiate salary, always know your numbers! Research sites like Indeed.com, Glassdoor.com, Salary.com or PayScale.com to see what the industry standards are for men and women. Talk to people you know in similar positions, or those who have



held those jobs or supervisory roles during their employment history. Get comfortable with the numbers and let them guide your ask, as well as what you consider to be the low end, high end and middle ground of your ask.

Keep the negotiations focused on your worth, your value to the organization, and the future path you believe you should be provided with, considering your merit.

Your boss – as kind as he or she may seem – truly doesn’t care if you want to send your children to private school, get them that much-needed tutor or that your husband lost his job. It’s not to say bosses aren’t empathetic, but those personal reasons can’t be taken to their higher-ups when justifying that budget increase for your raise or promotion. People have been known to feel they have to justify or qualify why they are deserving of more, and that is not an effective tool in your negotiating tactics. Base your ask on your merit, the metrics and what you can provide to the organization; and do it with confidence and calm. Those are reasons the boss can support.

And if they aren’t, then maybe it is time to take your skills somewhere else.

Just do the homework, have the confidence and trust that everything you are asking for is reasonable and fair.

Finally, remember that if you don’t ask, you won’t receive. That can add up over time, not just financially, but also in your happiness and your opportunity to grow and develop. You got this I can’t wait to hear how things work out for you.

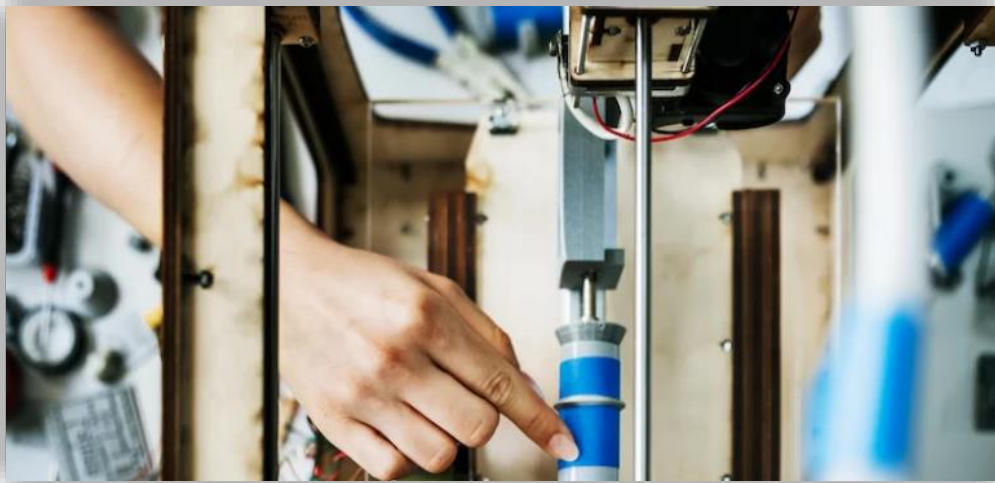
– Andrei

GIT thought Provoking corner



“Sometimes,
asking for help
is the most
meaningful
example of
self-reliance.”

– Unknown



4 Manufacturing trends that are changing the industry

Manufacturing has undergone a major digital transformation in the last few years, with technological advancements, evolving consumer demands and the COVID-19 pandemic serving as major catalysts for change. To maintain their competitiveness and overcome today's challenges, manufacturers have had to make agility and adaptability top priorities.

Here, we'll discuss the major manufacturing trends that will change the industry in the coming year.

1. Digitalization and Industry 4.0

Digitalization has had a profound impact on the manufacturing sector, enabling businesses to optimize processes, improve quality and reduce costs. Industry 4.0—also known as the fourth industrial revolution—is the latest phase of the manufacturing industry's digital transformation. It integrates advanced technologies—like the Internet

of Things (IoT), artificial intelligence (AI) and cloud computing—into an organization's existing manufacturing processes. Industry 4.0 enables manufacturers to conduct real-time data collection and analysis for vast amounts of

data, providing them valuable insights into their operations. It also helps organizations more easily manage and maintain equipment, utilizing cloud storage and facilitating communication between enabled equipment to create more flexible, agile manufacturing systems that can adapt quickly to changes in demand.

2. Artificial intelligence (AI)

One of the most significant benefits of artificial intelligence (AI) in manufacturing is its ability to analyze vast amounts of data in real-time. With Industrial Internet of Things (IIoT) devices and sensors collecting data from machines, equipment and production lines, AI algorithms can quickly process and analyze data to identify patterns and trends, helping manufacturers understand how production processes are performing.

Companies can also use AI to identify anomalies and equipment defects. Machine learning algorithms, for instance, can be trained to identify patterns in the data and manage decision-making based on those patterns, allowing



manufacturers to catch quality issues early in the production process.

Furthermore, AI can help manufacturers implement predictive maintenance systems and processes, streamline supply chain management, and identify and address workplace safety hazards proactively. How can you harness the power of AI to operationalize sustainability?

3. 3D printing

3D printing, also known as additive manufacturing, is a rapidly growing technology that has changed the way companies design, prototype and manufacture products. In smart factories, 3D printing is a popular tool for producing complex parts and components quickly and precisely. Traditional manufacturing processes, like injection molding, can be limited by the complexity of a prototype's part geometry, and they may require multiple steps and operations to produce. With 3D printing, manufacturers can produce complex geometries in a single step, reducing manufacturing time and costs.



Additive manufacturing is particularly useful in industries such as aerospace, automotive and healthcare, where complex parts and components are required. This technology also enables manufacturers to produce spare parts on-demand, reducing the need for large inventories and improving supply chain efficiency.

4. Robotics and automation

Robotics and automation have been transforming manufacturing for years now, and this trend is only expected to continue. Robotic process automation has been a key driver of smart manufacturing,

with robots taking on repetitive and/or dangerous tasks like assembly, welding and material handling.

Ultimately, robotic automation can improve system efficiency, reduce errors, decrease equipment downtime and increase worker safety in manufacturing operations. As an added benefit, robots can work around the clock, providing manufacturers with the ability to operate 24/7 and significantly increasing productivity.



VETERANS, GET READY TO POWER YOUR TECH FUTURE AT GLOBAL IT

Global Information Technology (Global IT) is approved by the Department of Veteran Affairs to receive Veterans benefits. We accept Chapter 33 Post 9/11 GI Bill®, Chapter 30 Montgomery GI Bill® for Active Duty, Ch 31 Vocational Rehabilitation and Employment (VR&E), and VRRAP. Whether you are serving or have already served, Global Information Technology is here to work with you to start your IT career. These benefits may cover up to 100% of tuition and fees and housing allowance, courseware, and other training related costs as well.

The Department of Veterans Affairs (VA) is accepting new training program enrollments for veterans wishing to use their GI Bill benefits. These training programs help veterans get the technology skills they need to join some of the fastest-growing industries in the United States. Global Information Technology (Global IT) is approved by the Department of Veteran Affairs to receive benefits under the GI

Bill - Chapter 31 and Post-911 programs. Participating veterans will receive high-tech training, tuition, and housing allowance assistance).

For more information about your specific benefits in regards to your service, call 248-557-2480 to set up an appointment with one of our School Certified Officers (SCO, career advisors) or complete the inquiry form at <https://www.globalitech.com/va-p>



DETROIT, Michigan

**Jobs in the Detroit area ...
Just 1 click away**

SimplyHired.

indeed

Linked in

glassdoor®

Dice®
The Career Hub for Tech Insiders™



What makes a city smart?

As cities get smarter, they are becoming more livable and more responsive—and today we are seeing only a preview of what technology could eventually do in the urban environment. Until recently, city leaders thought of smart technologies primarily as tools for becoming more efficient behind the scenes. Now technology is being injected more directly into the lives of residents. Smartphones have become the keys to the city, putting instant information about transit, traffic, health services, safety alerts, and community news into millions of hands.

Smart cities put data and digital technology to work to make better decisions and improve the quality of life. More comprehensive, real-time data gives agencies the

ability to watch events as they unfold, understand how demand patterns are changing, and respond with faster and lower-cost solutions.

Three layers work together to make a smart city hum. First is the technology base, which includes a critical mass of smartphones and sensors connected by high-speed communication networks. The second layer consists of specific applications. Translating raw data into alerts, insight, and action requires the right tools, and this is where technology providers and app developers come in. The third layer is usage by cities, companies, and the public. Many applications succeed only if they are widely adopted and manage to change behavior. They encourage people to use transit during off-hours, to change routes, to use less energy and water and to do so at different times of day, and to reduce strains on the healthcare system through preventive self-care.



August 2024 Career Services Workshops: GIT's Lunch and Learn Events

Message from Jennifer Bowden, GIT's Career Services Manager

Hello Global IT community! GIT's workshops and 'Lunch and Learn' events are short sessions with the information you need to get a jump-start on your job search. Our upcoming workshops here at GIT include:

Thursday 8/8/ at 4 p.m. – Creating a LinkedIn Profile

LinkedIn is a powerful tool for locating jobs, researching employers, and expanding your professional network. Learn tips for creating a profile that highlights your skills and experience and helps you make the most of this career resource.

Tuesday 8/20 @ 12 pm – Applying for Government Jobs

Are you interested in applying for government jobs? Attend this workshop to learn more about the application process and how to write a resume that meets state and federal guidelines.