

INSIDER

INDUSTRIAL AUTOMATION & PROCESS CONTROL

AI AND INTELLECTUAL PROPERTY

Als can be both good and bad, just like much new technology. There are some clear uses of AI that are unique and beneficial, like the use of AI in machine learning, machine vision, and learning algorithms that an AI can operate faster than a human can. In those situations, Als can perform better than the average human and won't take jobs away from people. Most automation and process control uses of Als are fine and will actually contribute new jobs for engineers and data scientists, and even plant operators, and that's a good thing.

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Here is where it gets sticky, though. Most people have heard of ChatGPT and the other Large Language Models. They are capable of mimicking a real person well enough to pass in many situations. Grasping service organizations and telephone selling companies have begun to use the LLMs to replace human beings. ChatGPT doesn't organize unions, doesn't get sick, doesn't need to get paid, and isn't eligible for retirement, and will work 24/7. **UNLESS YOU HAVE SOME VERY IMPORTANT AND IRREPLACEABLE SKILLS YOU WILL BE REPLACED BY AN AI WITHIN 10 YEARS.**

The Writers' Guild of America (West) has been on strike for weeks over the increasing use of LLMs and digital imaging Als without compensating the writers. See, the LLMs have to be "seeded" by feeding them actual work product of artists and writers and editors, which, according to the Writers' Guild, violates copyright. Could this happen in your industry? If you don't think so, why not? What makes YOU special? Maths? Engineering expertise?

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Design sensibilities? By 2030, the LLMs will be able to do all those things.

And then there are the cheaters. Yes, cheaters. Teachers are overwhelmed by the use of ChatGPT and its fellows to produce bogus homework. In fact, at The Heinlein Society, where I am a Director, the scholarship application review committee (of which I am a part) is at this point finding between 30 and 50% of the applications were created with the use of a LLM AI.

It gets worse. Neil Clarke, the award-winning editor and publisher of *Clarkesworld* science fiction magazine has had to close submissions to the magazine several times because he continues to be inundated with "short stories" that were produced by ChatGPT and other LLMs. He has received thousands of these submissions. Uniformly, by the way, they were terrible.

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While the work product of the Large Language Models is not ready for prime time yet, the operative word in this sentence is “yet.” Here we get to the destabilizing stuff.

An AI-generated deep fake of Vladimir Putin giving a speech nearly caused World War III this week. And it will get worse.

One of the things that has been true for over a century now is that managers and executives don’t get laid off in hard economic times until the “end of the world” has arrived. That’s because their knowledge and skills are difficult to replicate, unlike an assembly line worker. This insulation has kept executives from complaining too much when lower-level workers were “rightsized.”

The argument has always been based on the history of Industrial Revolutions. Industry 1.0 acquired factory workers who were being automated off the farm by reapers and other farm machinery. Industry 2.0 and 3.0 created enough new productivity that wages were high and unemployment was low. By the time we were looking at the start of Industry 4.0, the number of people in manufacturing jobs in North America and Western Europe had plummeted. If you could, you went to college and got an MBA. It wasn’t always like that. My father was Operations Manager of FMC Corporation and Layne Western in the 1950s, with a GED he’d been required to get at the Skunk Works during WWII so he could be a supervisor. Along with price inflation, job requirement inflation has skyrocketed.

The wages of non-union, non-college jobs have stagnated for 30 years. Manufacturing workers, warehouse workers, and others who used to be considered skilled trades workers are now considered menials.

It is not possible for the 1% to have everything and the 99% to have essentially nothing, and yet expect the 99% to continue to produce efficiently and productively, and meekly for their bosses.

While the creators of ChatGPT are asking the US Congress to “stop them before they kill again,” they aren’t asking for a coherent policy to mitigate the dislocations and disruptions that LLMs and other AIs will undoubtedly cause in the market.

We need to seriously consider the uncoupling of wages and the ability to live a decent lifestyle from education and work. If UPS drivers (for example) are collecting SNAP benefits because they aren’t paid enough to live; if Amazon’s warehouse workers are doing the same thing, and others are likewise, society is unsustainable. It is not possible for the 1% to have everything and the 99% to have essentially nothing, and yet expect the 99% to continue to produce efficiently and productively, and meekly for their bosses.

We have all conveniently forgotten how bloody Industry 1.0 was, and how close the West came to communist and fascist dictatorships in the 1930s, and how close we could be to similar events in just a

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few years if a soft landing for displaced workers isn't arranged. This is not a gift, not charity. It is a fundamental reorganization of society. We need to decide, once and for all, if it is moral for billionaires to have all the toys, and the rest of us have none. The answer may be that we have lost so much control that we are not able to stop the accretion of wealth to the 1%. I have just read an unpublished science fiction manuscript which I hope to publish this year that paints a picture of such a world. I've written before of the choice facing us between the Star Trek Universe and the world painted in the film, *Elysium*. Let's hope somebody comes up with another choice. After all, the Star Trek Universe is after a nuclear war.

If you are a conservative, or a libertarian, you are probably disagreeing massively with me right now. So tell me what you think will happen, and how it can be avoided, if you think I'm wrong.

WORKING IN THE NEW ECONOMY

For the first time, the tech industries are being exposed to layoffs, retrenchment, and unemployment as the corporate managers try to milk all available profits from their enterprises. At least 250 thousand knowledge workers and engineers have been let go by high tech companies. This has not happened to "professionals" since the 1980s, and before that, the Great Depression. Usually, the people who used to wear neckties have been insulated from this kind of retrenchment.

Not any longer.

This is serving as a warning that there is no longer any such thing as a "career." Careers were great. You got a college degree and went to work as a professional—whether as an engineer, a programmer, or a manager, or whatever. You had status because you weren't working for an hourly wage, and you were pretty sure that if you didn't screw up, you could work there for your entire working life. That's a career.

Now you know that there's no such thing, just like machinists, laborers, stationary engine mechanics, and all the other trades found out in the 80s, 90s, and 2008-9. YOU ARE REPLACEABLE. There is nothing you can do about it because you don't own the company. Furthermore, unless

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job!**

you were one of those rarities that belong to a "professionals" union, like Boeing engineers do, you have nobody to speak for you other than yourself. How does it feel to be a libertarian now?

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What management wants is NO employees. They want only freelancers. The commercials by UpWork make me sick, with everybody dancing and singing to, “We staff up, we staff down!”

Idiots! Staffing down means you lose your job. And since you don’t have any benefits, and you’re not actually an employee, you don’t get unemployment, or health care continuation like COBRA, and since you’re working as a freelance they don’t have to pay you severance, either. All they have to do is to send you an email that says, “Sorry, but we are changing how we work.”

And you will get to fight them for every bit of IP you own, whether it was yours before you freelanced for them, or not. Did you sign a non-compete/non-disclosure? You might as well walk off the end of the pier. No, they aren’t legal, but you will beggar yourself in the lawsuit.

If you are under 60 years old, and you are not absolutely terrified, I’ve done something wrong, or you’re just not listening. Yes, it really is as bad as you fear. And when you combine the drive to get rid of employees with the drive toward AI, it really is worse than you fear.

But surely, you say, an AI can’t design and build a building or a factory. Not yet, anyway.

So what are you going to do? Well, if you have any smarts, you are going to do what we life and job coaches have been trying to tell you to do since 1990.

First, don’t let your skills get rusty. I once had the dubious duty of telling an aerospace engineer with thirty years of experience who’d just been laid off that he had no marketable skills because everything he learned was over thirty years old, and out of date. The only job he qualified for was a Walmart greeter.

Second, become a company of one. Incorporate. Work through your own company. IP is owned by your company, and you need to carry your own business insurance.

Third, don’t contract for the same pay as when you were an employee. If you have serious skills, sell them for the most you can get. Don’t take their offers.

Keep looking for better gigs. You don’t work there. You don’t owe them any loyalty. They certainly won’t be loyal to YOU. Either they let you go to a new company, or they suddenly can pay you more. Either way you win.

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Pay attention to what's going on! Just because you're freelancing, you should pay strict attention to what is going on in the company. Watercooler and washroom conversations are important sources of information for you. That's a good reason to be a hybrid worker. Show up in the office at least once a week if you can.

Carry your own health and retirement plans. If you think you don't need healthcare, you're nuts. Even a young person can get sick. Look at what just happened in the Pandemic. If you think companies are going to start granting you retirement, you're nuts. One of the reasons to ask for more money than wage-earners is so that you can squirrel it away for your retirement.

Always be thinking about doing what you like. If you want to run a sailing guide service and you are an engineer, you only have to convince yourself and your family. Figure out a business plan and go for it.

Above all, remember what the great actor Spencer Tracy famously said when asked how to succeed in Hollywood. "Show up on time. Know the jokes. Say the jokes. Go home on time."

In this brave new world of work, it is critical that you make sure you take care of yourself first.

INDUSTRIAL STORYTELLING, PART 7: Customer Centric Service

The first customer complaint letter that has been preserved was written in about 1800 BCE in the city of UR. One copper merchant, Nanni, wrote to his supplier, Ea-nasir (as quoted on Facebook by best-selling author S. M. Stirling):

When you came, you said to me as follows: 'I will give Gimil-Sin (when he comes) fine quality copper ingots.' You left then but you did not do what you promised me. You put ingots which were not good before my messenger (Sit-Sin) and said: 'If you want to take them, take them; if you do not want to take them, go away!'

What do you take me for, that you treat somebody like me with such contempt? I have sent as messengers gentlemen like ourselves to collect the bag with my money (deposited with you) but you have treated me with contempt by sending them back to me empty-handed several times, and that through enemy territory.

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Does this sound like a complaint you might have gotten, or one you have made? Of course it does. The idea of what constitutes good customer service hasn't changed in nearly 4000 years!

What are your suppliers and yourselves doing? Companies are focused on making customer service pay. That's why there are phone trees, instead of real operators. "We value your business," the recorded AI voice says. No, they don't because if they did, they'd answer your phone call, wouldn't they? Nobody cares how many times they get the recorded voice that says the company values you and your business, because everybody knows it is a lie.

ChatGPT and the other Large Language AIs will make it harder to decide if you are talking to a real person or not. This is likely to make things even worse as people figure out that they aren't talking to a real person after all.

Now, of course, companies are blaming this rotten customer disservice on post-Covid staffing issues. But that, of course, is nonsense. This stuff was going on long before the Pandemic.

The triage points go first to "Read the FAQ." If that doesn't work, you should ask the community for help. Only if that doesn't work, you might be able to talk to someone from the manufacturer.

Why do many companies, especially in the tech sectors, use crowdsourcing to do their customer troubleshooting? You know, "ask the community..." They do it because they have been able to talk their customers into doing the majority of the customer service themselves, and feel good about it!

"We value your business," the recorded AI voice says. No, they don't because if they did, they'd answer your phone call, wouldn't they?

If you're lucky, you won't waste hours going through answers that didn't quite do it for you. If you are luckier, you may suss out the deliberately hard-to-find phone line that connects to a real human being.

Ask yourselves how you feel in a good restaurant... the house manager seats you quickly, even if you have a problem with your reservation. The wait staff brings you water and drinks and is unobtrusively attentive throughout your meal. Feels good, doesn't it?

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So look at how your company does customer service. Don't think the way a restaurant works is transferrable to your business? Ask your customers. After all, your customers can always do what Nanni did, in 1800 BCE:

Take cognizance that (from now on) I will not accept here any copper from you that is not of fine quality. I shall (from now on) select and take the ingots individually in my own yard, and I shall exercise against you my right of rejection because you have treated me with contempt.

Everybody hates customer service. What would happen if you changed the way you do it? What would happen if you treated customers like you *really* did want their business and value them as customers and people?



WALT BOYES is a principal with Spitzer and Boyes LLC. He is a Life Fellow of the International Society of Automation, a Fellow of the Institute of Measurement and Control, a Chartered Measurement and Control Technologist, and a member of the Association of Professional Futurists. From 2003 to 2013 Walt was Editor in Chief of *Control* magazine, and from 2014 he has been Editor and Publisher of the INSIDER. From 2016 to 2022 he acted as Editor of the alternate history magazine, *The Grantville Gazette* and as Editor in Chief of *Eric Flint's Ring of Fire Press*, and he recently joined Untreed Reads Publishing, along with Joy Ward, as SFF/AltHist Editors. Walt "pays it forward" as a Director of The Heinlein Society. Walt is available for consulting and for speaking engagements both in person and online. Contact him at waltboyes@spitzerandboyes.com or waltboyes@gmail.com , or by phone at +1-630-639-7090.