

WHAT JOBS WILL BE LEFT FOR US HUMANS? WHAT I LEARNED BY CHALLENGING SOME INDUSTRY EXPERTS.



Submitted by Yan-David Erlich on Wed, 05/18/2017

On Tuesday, I was honored to lead two roundtable discussions for the Influencer Series on the topic of **Fulfilling the Promise of Industrial IoT**. Thank you to Ravi Belani and Michelle Gonzalez for inviting me to speak, for Nima Badiey and Deb Noller for each moderating one of the discussions, and for USVP for hosting us.

I was asked to lead with a controversial point of view. Having recently read *Homo Deus* by Yuval Harari, and strongly ascribing to his description of humanity's potential future, I labeled myself a humanist, then asked the room **which jobs will be left for us humans?**

In his book, Harari suggests that it would be significantly harder for AI to replace a Paleolithic hunter-gatherer than it would to replace a modern human. The reason being that the hunter-gatherer needed to do many things well: hunt, gather nuts & seeds, know which plants were edible, tan hides, build structures, etc... The modern human has professionalized themselves to do one thing very well: manipulate Excel spreadsheets or write Go backend code—while the rest of her needs are fulfilled by other deeply professionalized humans. *Doing many things well is hard for AI, whereas doing one thing really well is a machine's home turf.*

One might suggest that we are no closer to creating conscious machines, but Harari suggests this is no consolation. Though intelligence & consciousness have historically been strongly intertwined, this is no longer the case: intelligence is decoupling from consciousness. For example, a Waymo self-driving car does not carry out thoughtful conversations with its passengers, contemplate the beauty of the starlit sky, nor get frustrated at the driver who cut it off in traffic—but it is fast becoming a better driver than you & I. It turns out that, given the choice between intelligence and consciousness, society—economically, militarily, politically, etc...—picks intelligence over consciousness every time. What will happen when machines are more intelligent than us (even if less conscious)?

I suggested that the room—filled with IIOT experts from big companies, VCs, startups, and thought leaders—might think the first jobs to go would be the industrial jobs. After all, the rage—and thesis for many VCs and entrepreneurs—is to usher the lights-out factory through a combination of IIOT, robotics, and AI. I however believe many industrial jobs are safer than those of most knowledge workers. With some exceptions, industrial workers still have to navigate difficult terrain, manipulate heavy tools, and make on-the-fly “one-off” decisions that don't rely on a wealth of data to pattern-match from. As such, they are more akin to the hunter-gatherer who



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needed to be proficient at many things. Knowledge workers on the other hand have largely become data processing engines for emails, Slack messages, spreadsheets, radiology reports, etc... You may not even need to build robots to replace knowledge workers because they rarely move around to do work—computers will suffice.

Having framed my argument, I opened up the conversation to the broader group by asking:

- What jobs do you think machines will do “last”?
- What will happen to un-augmented humans in the job market & how do we address this on a societal scale?

Both roundtable conversations were heated, touching on topics ranging from:

- Will machines be able to emulate and/or replace human intuition and emotions—and does it matter if they do or don’t?
- Can we teach machines to treat humans nicely when the time comes, and how is our treatment of animals and pets a good or bad model for how super-intelligent beings might treat humans in the future?
- Are knowledge workers really more at risk?
- Are minds shaped by certain professions more or less “plastic” (eg. re-trainable) than others?
- Is Universal Basic Income (UBI) necessary, and will it be enough? In particular, UBI provides a means for survival, but does not provide a sense of purpose—can humans live without purpose?
- What about human happiness? Does it matter, especially if it can be manipulated chemically with prescription or illegal drugs?

Some of the professions suggested as being “last to go” included:

- Care/empathy givers—less about providing of the technical medical care itself, but more the delivery mechanism for empathy & bedside manner.
- Human organizers—whatever groups humanity congregates in, these groups will need to be organized & motivated, and humans may best be suited for this task.
- Archeologists, NGO members, etc. other jobs that care specifically about the human experience, vs. the economic or military outcomes.
- Humans in the service of training/improving machine learning systems—teachers, but for the AI.

The general consensus in the room was that super-intelligent systems are coming. For industrial & knowledge workers alike, one way to improve our chances in the future market for a purpose-driven life is to embrace that change and “merge” with machines to make ourselves hybrid super-intelligent beings.

While the future of this merger may sound like science fiction today—cybernetic limbs, neural lace, brain-enhancing chemicals, etc...—the first steps of this merger are already happening. Many of us in the room already consider ourselves cyborgs given how we use our smartphones as an extension of our brains. It’s been a long time since I’ve had to remember a birthday, a phone number, driving directions, my task or shopping list.

Mediated by today's mobile devices, workers—both desk-less and desk-bound—can have access to a vast repository of knowledge and instructions. They have the means to expand their own cognitive abilities to continue to keep pace with the advancing tide of technology. Working in conjunction with smart data on a mobile device today may be the best step to prepare us for a future where hybrid human/machine intelligence is the norm. It may sound strange, but I think it is considerably more appealing than becoming economically and socially irrelevant.

Clearly this is a passion of mine. At Parsable, the company I co-founded, we are helping industrial workers globally do their jobs right every time by augmenting them (today) with a mobile collaboration & workflow platform they access via their mobile device. Their ability to collaborate in real-time and have immediate access to all of the best-practice standard work instructions and operating procedures gives them a leg up in an increasingly complex and technologically advanced world. As technology progresses, our software may end up getting delivered via wearable devices, or even by neural lace. Irrespective of delivery mechanism, the goal of making industrial workers safer & more productive, and thus help secure their place in the future economy, remains our north star.

I'm a humanist, and there's hope for us humans.

If you're constantly thinking about this stuff, I'd love to talk. Let's start by connecting on LinkedIn or Twitter.

About Parsable

Parsable helps the world's largest industrial firms get jobs done right—every time. Most companies know that adhering to Standard Work processes produces the best results, but have trouble getting their teams to follow these processes resulting in lost productivity and poor quality. Parsable provides an Industry 4.0 Connected Worker platform so employees can collaborate together in paperless, mobile, and digital business processes. Teams know what work they need to do, and how and when they need to do it right on their mobile devices. Each step and action is measured and employees can raise issues and provide feedback so that every process is quickly analyzed and improved.

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San Francisco HQ
425 2nd Street
San Francisco, CA 94107
+1 888 681 2119

Austin
98 San Jacinto Blvd
Austin, TX 78701

Vancouver
1040 Hamilton Street
Vancouver, BC, V6B 2R9



www.parsable.com