The Human Side of Smart Cities

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The deployment of Artificial Intelligence (AI) techniques in basically every industry, from automating simple and repetitive tasks to performing specific and high complexity functions that humans find difficult or even impossible to complete, will become a new normal post CoVID-19. AI has already begun to revolutionize industries across the world, helping businesses to improve their efficiency, quality, and speed. By using automation, deep learning, and natural language processing, AI helps to streamline business operations, decision making, and help predict trends.

Over the years, many of the biggest names in the tech industry have invested heavily in AI acquisitions and AI-related research and development. Companies such as IBM, Microsoft, Amazon, Google, and Samsung have each submitted thousands of AI patent applications, while AI-related start-ups are rake in billions of dollars in investment each year.

During the pandemic, China has demonstrated the benefits of AI as a crisis management tool. With the help of AI, this country was able to identify patterns from big data, support their health systems and control the spread. One good example of the success of AI in China is how it assisted in radiology technologies, speeding the diagnosis of large numbers of patients with the novel Coronavirus.

Other nations unite expertise in order to expand AI's current capability to fight against COVID-19. A number of applications have been deployed so far, and this trend will continue to manifest how AI and automation can be used to solve problems in such a health crisis and other situations.

AI in Post CoVID-19

The current global situation is pushing the development of robots and the improvement of AI to save lives and reduce human exposure to the COVID-19 outbreak. It could lead to a new era of robotic human helpers.

There are a lot of questions waiting to be answered: Which processes can they automate? How reliable will this automation be? What is the initial investment and ROI? And what will happen to all those employees that will get affected by the introduction of machines or even by just software? What are the ethical considerations?

The interest in AI rises to augment human capacity such as supporting workers' daily work, and performing hazardous tasks which humans should avoid. The majority of office employees are currently working from home. This "pushed" digitalization of the workplace, will probably bring a new trend of WFH culture, with new requirements.

According to data gathered by Learn Bonds, the global AI software market value will jump from $22.6B in 2020 to $126B by 2025. Looking at the region, while North America is leading the AI software industry globally, the Asia-Pacific region is ranked as the second-largest market.

Software robots and AI automation have already attained a massive role in manufacturing, retail, banking, and insurance. They also play a huge role in investing and lending platforms, where sophisticated computer algorithms make decisions in minutes instead of days.

The so-called digital workers are already transforming traditional workspaces, performing business tasks like a human worker, only much faster and with less mistakes – ethically speaking.

Although many people consider automation and AI as traditional job killers, the coming years are expected to witness a growing integration between human and digital workers, creating a new hybrid workforce. By taking over routine tasks, digital workers will leave more time for their human counterparts to manage the complex jobs. This new hybrid workforce is expected to reduce costs, improve efficiency, and create better products and services for customers.

APARA Supports Human-Machine Collaboration Initiative by the University of Oxford

To harness the real potential of the human-machine partnership in the workplace, the University of Oxford has initiated a program to collaborate with researchers in Singapore to revolutionize approaches to world-leading research and education at the University of Oxford by providing a platform for the basis of a large scale, multi-national research-innovation venture program. The collaboration will focus on building a portfolio of new research projects relating to AI, robotics, cyber-physical systems, human-centred computing, and provide support to the University's new "Lighthouse" Doctoral Scholarships.

This initiative will not only produce major advances in AI and autonomy, it will produce a new generation of highly trained researchers, engineers and entrepreneurs. This human capital will drive the growth of a high-tech ecosystem who think "cloud first" when starting new companies, collaborations and research endeavours. It will change the industrial – research partnership paradigm and drive innovation through the related economies.

From the University of Oxford, top researchers such as Professor Ingmar Posner, Head of Oxford's Applied AI Lab and founding Director of the Oxford Robotics Institute, Professor Nick Hawes of the Oxford Robotics Institute, and coordinator of this initiative on human-machine collaboration, Professor Marina Jirotka, professor of Human-Centred Computing, and Professor Niki Trigoni, Head of the Cyber Physical Systems group, will be the team of leading principal investigators working with local experts such as Professor Marcelo Ang and Professor David Hsu of the National University of Singapore.

Future work scenarios don't simply feature the human as supervisor of the machine. Instead, they consider the full spectrum of possibilities for human-machine pairing. And, as humans and intelligent machines start working together, integrally, this becomes the norm in the workplace. Thus, organizations will have an opportunity to maximize the potential of both.

Globally, this trend will create opportunities to improve the quality of life for everyone, and leverage on technology to build a higher quality of life and alleviate the worsening problems. Performance indicators will be expected to shift from efficiency and effectiveness to one of human experiences – both for the customers and the employees.

So, AI will not totally replace human workers, instead the technology will be leveraged to augment human potential, especially for human workers in customer-facing roles. AI in Robotics will be expected to create a net increase of jobs, but decimate middle-class careers. The question remains as to how much change to the work process, the work skills and work environment, are being designed for the Future of Work?