www.pipelinepub.com
Volume 17, Issue 11

AI, ML and the Intelligent Analytics Future

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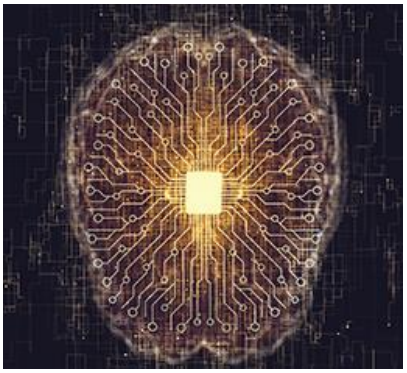

Adoption of artificial intelligence and machine learning technologies is growing. According to recent research, almost 60 percent of communication and digital service providers claim to have applied AI- and ML-driven technologies in their operations in one way or another. This proves that even though applying artificial intelligence and machine learning in telecommunications is still quite new and expensive, communication and digital service providers strongly believe the technology to be worth implementing.

Many service providers still wonder about the right ways to utilize and monetize artificial intelligence and intelligent big data analytics, as there aren't as many use cases as we'd wish there to be. Nevertheless, market observations and research allow us to share a few interesting insights about the most promising ways to utilize and monetize technologies driven by artificial intelligence and machine learning.

Creating and managing smart networks

As 5G networks are spreading around the globe, communication and digital service providers are looking for ways to make their networks ready, knowing that the true realization of the 5G-powered technologies' full potential calls for large-scale automation.

This kind of automation can only be provided by artificial intelligence and machine learning. By utilizing AI- and ML-driven solutions, telecommunication companies and other digital service providers can make their networks intelligent.

But what exactly are these “smart networks?”

Automated, cross-vendor, self-healing and auto-scaling

To thrive in a world of 5G networks with an upcoming boom of 5G and IoT services, communication and digital service providers must make their networks more autonomous. This may (and should) include automated network healing and scaling. It will also involve finding ways to avoid vendor lock-in and enable vendor switching in real time, which allows CSPs to choose the VNFs that are best fitted to the current business needs.

Therefore, if an operator wants to make their network intelligent enough to handle future services, utilizing solutions powered by artificial intelligence and machine learning is a must. The success of digital and communication service providers will largely depend on the speed, swiftness and flexibility of their services and networks.

Predictive and preventive maintenance

Apart from the more virtual area of network management, communication and digital service providers must also take care of the physical network infrastructure that demands high maintenance costs in terms of finances and human resources.

The solution might be AI-powered predictive and preventive maintenance, which allows smarter resource allocation. Ideally, these will be combined with autonomous tools such as drones, optimizing maintenance processes and saving time and money.

Apart from optimizing management of large infrastructure in the populated areas, these solutions also allow the deployment and maintenance of networks in very remote, hard-to-reach locations, which has been impossible until now.

Deploying and monetizing 5G services

To date, 5G hasn’t really made the big change it was supposed to. The arrival of the next-generation network was thought to be a real game-changer, yet hardly anything changed. Why?

It might be because we’re thinking about the wrong 5G. Fifth-generation networks offer better connections and higher speed, but apart from that nothing truly groundbreaking—yet. It is 5G services that may bring real upheaval to the market.

Here, we can think about two types of 5G services – B2B (business-to-business) and B2C (business-to-consumer). Monetization possibilities can come from both, and here's how.

Monetizing 5G services in B2B

The ability to monetize 5G is among the key reasons for implementing artificial intelligence in telecom organizations. How can communication and digital service providers monetize the technology?

Almost 95 percent of surveyed operators in recent research believe NaaS (network-as-a-service) will be the driver of 5G monetization, and therefore offers a big revenue opportunity. Network slicing and following NaaS are named among the most promising ways to utilize artificial intelligence and 5G technology, especially when it comes to forming new B2B partnerships.

Realizing the potential behind these services, communication and digital service providers need to face a few challenges first. The biggest is automation, especially within the domains of end-to-end coordination, RAN, core and transport networks. Solutions driven by artificial intelligence and machine learning can certainly be of great help—if not entirely necessary—in facing these challenges, and in deploying network slicing and network as a service.

Monetizing 5G and IoT services in B2C

When it comes to business-to-consumer transactions, 5G networks implemented on a large scale can be the driver of development of more Internet of Things and 5G services, including in areas such as smart homes, smart cities, smart transport, remote healthcare (which has proven to be critical during the pandemic), and more. The possibilities are limited only by our imagination.

Yet these IoT and 5G services will only be available if we implement artificial intelligence, machine learning and AI-powered big data analytics, which enable seamless cooperation between the different tools, devices, and equipment crucial to deploying these services. This real-time communication is the key to developing and maintaining a high level of service.

Customer experience and churn

Artificial intelligence and machine learning technologies also have the potential to transform how digital and communication service providers address customer service and handle churn prediction. Churn prediction is the ability to detect which customers might discontinue a service, based on how they are using it in real time.

Gaining new customers in a highly competitive environment is a challenge but customer retention can be even harder. This is where big data analytics driven by artificial intelligence and machine learning can be exceedingly helpful.

Analyzing data in real-time, collecting all the acquired information, and receiving conclusions with actionable suggestions is pretty much impossible manually—especially for the biggest telecom operators. Artificial intelligence and machine learning can give communication and digital service providers an unprecedented opportunity to analyze huge chunks of big data. More importantly, they can react quickly to customers, even predicting their actions and needs.

This means that, by utilizing artificial intelligence and machine learning, communication and digital service providers can better fulfill customers' needs by providing them with more tailored offers, which may prevent them from leaving for a competitor.

Preparing for the AI- and ML-powered future

Artificial intelligence, machine learning, and the intelligent big data analytics they power hold great potential. They can be helpful in optimizing an operator's business, creating new partnerships, and monetizing opportunities that will arrive with new digital services.

In a world of dynamic changes and constant digital transformation, automation remains the biggest issue for communication and digital service providers. While AI- and ML-driven solutions are quite expensive now, the benefits far outweigh the costs.

While not every organization using them is realizing their full potential, companies already in the process of adopting AI- and ML-driven technologies will have a huge advantage, whether in optimization or in monetizing new services.

If you and your service provisioning organization haven't yet started your journey toward automation, start now. Weighing the advantages and challenges yields a simple conclusion: automation offers the best and only way to thrive and survive in the foreseeable future of telecommunications.