

R.M.K COLLEGE OF ENGINEERING AND TECHNOLOGY

RSM NAGAR, PUDUVOYAL 601206



**CENTRE OF EXCELLENCE
IN
TELECOM**

**Webinar
on
AI / ML in Telecom Industries**

SPEAKER

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TECHNICAL ARCHITECT,
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14.05.2020

10.00 AM – 11.00 AM



EVENT POSTER



R.M.K. GROUP OF INSTITUTIONS
CENTRE OF EXCELLENCE - TELECOM



WEBINAR ON

ARTIFICIAL INTELLIGENCE / MACHINE LEARNING IN TELECOM INDUSTRY



RESOURCE PERSON

Mr.M.D.SENTHIL NATHAN
TECHNICAL ARCHITECT
NEC TECHNOLOGIES INDIA PVT LTD

DATE : 14/05/2020 - THURSDAY
TIME : 10.00 A.M. - 11.00 A.M.

TARGET AUDIENCE : TELECOM COE STUDENTS

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SUMMARY

- What is AI/ML?
- Four AI Use Cases in the Telecommunications Industry
 - 1.Network optimization
 - 2.Preventive maintenance
 - 3.Virtual Assistants
 - 4.Robotic process automation (RPA)

INTRODUCTION

AI and ML technologies can allow network operators to leverage advanced automation in network operations, which can help to optimize network architecture and improve control and management.

Four AI Use Cases in the Telecommunications Industry

1. Network optimization
2. Preventive maintenance
3. Virtual Assistants
4. Robotic process automation (RPA)

How AI used for Network Optimization?




AI is essential for helping Communication service pointer build self-optimizing networks (SONs), which give operators the ability to automatically optimize network quality based on traffic information by region and time zone.

Artificial Intelligence applications in the telecommunications industry use advanced algorithms to look for patterns within the data, enabling Telco's to both detect and predict network anomalies, and allowing them to proactively fix problems before customers are negatively impacted.

Popular AI use cases

- ZeroStack’s Brain Cloud Management, which analyzes private cloud telemetry storage and use for improved capacity planning, upgrades and general management
- Aria Networks, an AI-based network optimization solution that counts the growing number of Tier 1 telecom companies as customers
- Sedona Systems’ Net Fusion, which optimizes the routing of traffic and speed delivery of 5G-enabled services like AR/VR
- Nokia launched its own machine learning-based AVA platform, a cloud-based network management solution to better manage capacity planning, and to predict service degradations on cell sites up to seven days in advance.

Applications of “AI” in Telecom

| | ANALYSIS | | AUTOMATION |
|---------------------------|---|---|---|
| BUSINESS | <ul style="list-style-type: none">• Margin analysis• Demand forecasting |  | <ul style="list-style-type: none">• \$-driven Optimization• Multi-domain service design• Capacity optimization• \$-driven service design |
| NETWORK OPERATIONS | <ul style="list-style-type: none">• Fault prediction models• Root cause analysis• Worst Case Failure• Capacity prediction• Security – anomaly detection |  | <ul style="list-style-type: none">• Policy-based route design• Robotic Process Automation• Self-healing networks |
| CUSTOMER | <ul style="list-style-type: none">• Churn prediction• Fraud detection |  | <ul style="list-style-type: none">• Chatbots• Proactive offers |

How AI is used for Predictive Maintenance?

AI-driven predictive analytics helps to provide better services by utilizing data, sophisticated algorithms and machine learning techniques to predict future results based on historical data. This signifies that the operators can use data-driven insights to monitor the state of equipment, anticipate failure based on patterns, and proactively fix problems with communications hardware, such as cell towers, power lines, data centre servers, and even set-top boxes in customers' homes.

In the short term, network automation and intelligence will enable better root cause analysis and prediction of issues. Long term, these technologies will underpin more strategic goals, such as creating new customer experiences and dealing efficiently with emerging business needs. An innovative solution used in the AI to support its maintenance procedures, the company is testing a drone to expand its LTE network coverage and to utilize the analysis of video data captured by drones for tech support and maintenance of its towers.

How the AI Used in the Preventive maintenance to help customers side ?

Preventive maintenance is effective not only on the network side, but also on the customer's side. Dutch Telco KPN analyses the notes produced by its contact centre agents, and uses the insights generated to make changes to its interactive voice response (IVR) system. KPN also tracks and analyses customers' at-home behaviour with their permission such as switching channels on their modem, which may signify a Wi-Fi issue. Once identified, KPN proactively follows up on these problems, driving greater successes for technical teams.

How the Virtual Assistants as AI used for Customer Support?

Another application of AI in telecommunications is conversational AI platforms. Also known as virtual assistants, learned to automate and scale one-on-one conversations. Some companies have turned to virtual assistants to help contend with the massive number of support requests for installation, set up, troubleshooting and maintenance, which often overwhelm customer service centres. Using AI, operators can implement self-service capabilities that show customers how to install and operate their own devices.

How the AI used in the Robotic process automation (RPA) for Telecoms?

CSPs (communication service pointer) have vast numbers of customers engaged in millions of daily transactions, each susceptible to human error. Robotic Process Automation (RPA) is a form of business process automation technology based on AI. RPA can bring greater efficiency to telecommunications functions by allowing Telco's to more easily manage their back office operations and large volumes of repetitive and rules-based actions. By streamlining the execution of complex, labor-intensive and time-consuming processes such as billing, data entry, workforce management and order fulfilment, RPA frees up CSP staff for higher value-add work.

Conclusion :

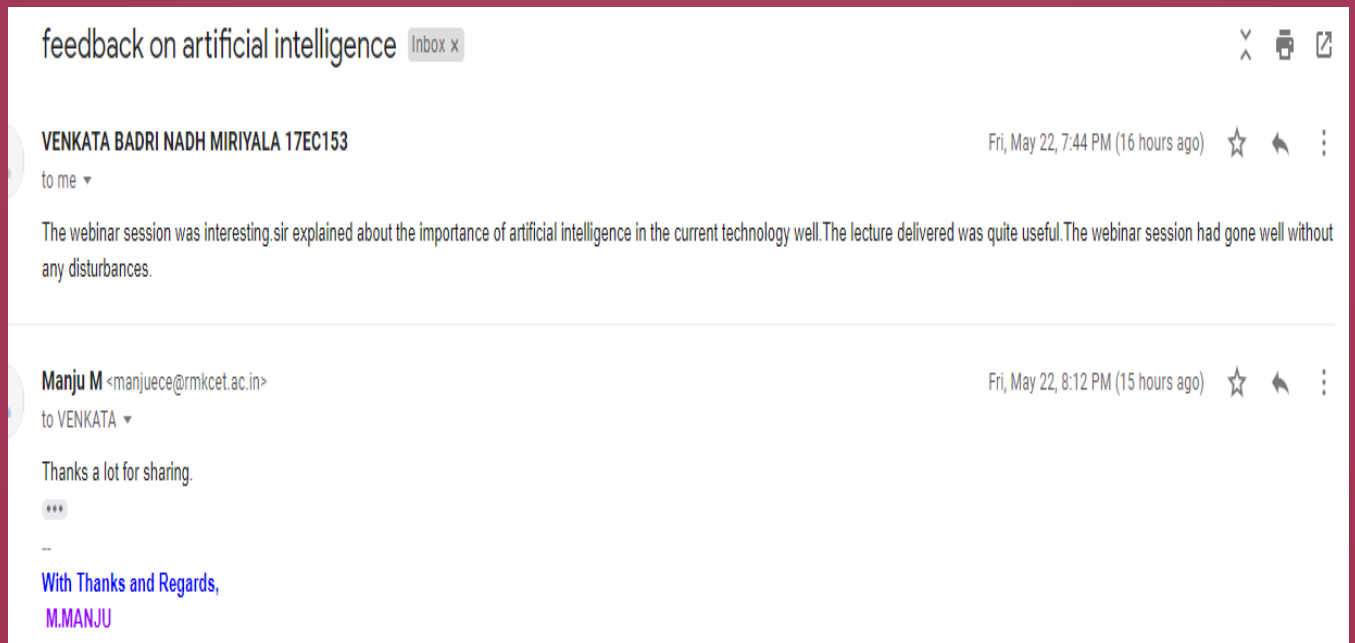
At the end of the webinar session ,the students interacted with resource person using chat box and got the idea to implement the projects in telecommunication using AI.

SAMPLE FEEDBACK

This webinar was interesting, sir explained about the importance of artificial intelligence in the current technology well. The lecture delivered was quite useful .The webinar session had gone well without any disturbances

VENKATA BADRI NADH MIRIYALA

III Year ECE



The screenshot shows an email interface with the following content:

- Subject:** feedback on artificial intelligence (Inbox x)
- From:** VENKATA BADRI NADH MIRIYALA 17EC153 (Fri, May 22, 7:44 PM (16 hours ago))
- To:** me
- Body:** The webinar session was interesting,sir explained about the importance of artificial intelligence in the current technology well.The lecture delivered was quite useful.The webinar session had gone well without any disturbances.
- From:** Manju M <manjuece@rmkcet.ac.in> (Fri, May 22, 8:12 PM (15 hours ago))
- To:** VENKATA
- Body:** Thanks a lot for sharing.
...
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With Thanks and Regards,
M.MANJU
17EC153

SAMPLE FEEDBACK

