



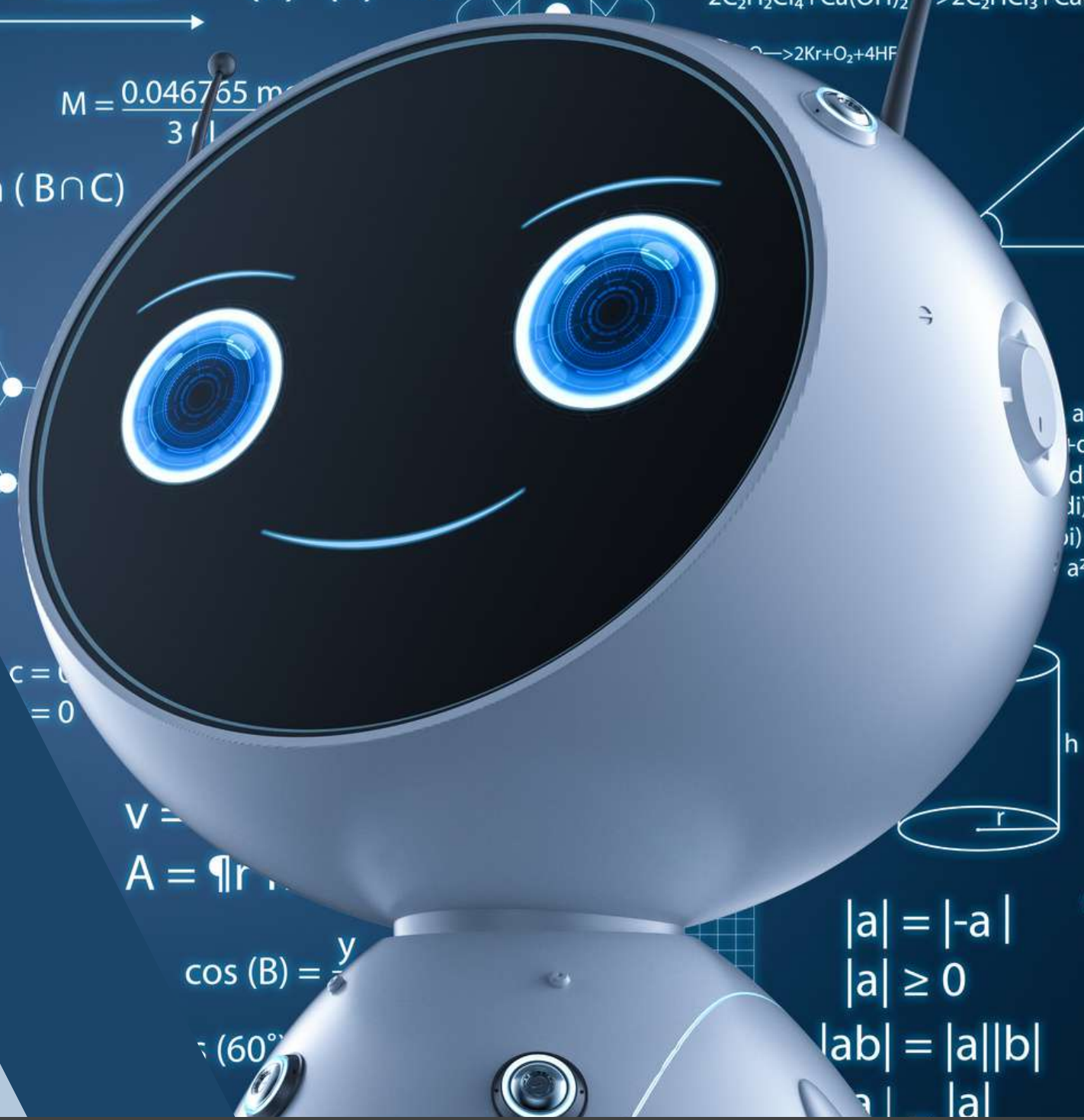
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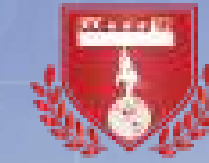
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# How Can I Apply To Machine Learning

## To Predict Supply Chain Risks- Potential PhD Topics

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# TODAY'S DISCUSSION

- In brief
- The role of ML in predicting supply chain risks
- Importance of ML in supply chain risks
- Interpretation based on Machine Learning
- Conclusion
- References





## In Brief

- In a world full of competition where every business is struggling to put itself ahead, [Machine Learning\\_\(ML\)](#) can grant some exclusive opportunities.
- From increasing profit margins to reducing costs and engaging customers, machine learning can help you in many ways.

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- As the world is triggered by the COVID-19 situation, managing and handling the supply chain risk is what everyone is thinking about.
- From lowering the risk and improving the forecast accuracy machine learning is the USB in the supply chains.



## The role of ML in predicting supply chain risks

- This application is based on artificial intelligence that searches for trends, accuracy, patterns and quality which makes your experience better in the system.
- Especially the ML algorithms which lead to the platform of supply chain management helps to predict various risks involved from unknown factors this will help in keeping up the constant flow of all goods in the supply chain.





## Importance of ML in supply chain risks

- Many renowned firms are now paying keen attention to ML to improve their business efficiency and predict risk in supply chains.
- So, let's take some time to understand how AI addresses the various problems involved in supply chains. Moreover, we will also learn about the advanced [Technologies role in the Management](#) of the supply chain.



## 1. Cost efficiency

- ML can be great in waste reduction and improving the quality. It can have an enormous impact on the supply chains.
- The power lies in its algorithms that detect the pattern from the data and help in predicting the involved risks in supply chains. ML can continuously integrate information and emerging trends to meet the new demands. Thus, it's very useful for retailers and business to deal with aggressive markdowns and helping them in cost efficiency.





## 2. Enables product flow

- With its set sequential operations it enables smooth product flow. It monitors the product line and ensures the targeted process of production is achieved.
- It offers an overview of the system thus it minimizes risks involved in the supply chain.





## 3. Transparent management

- MI can communicate and explain the risk involved in supply chains with transparency. It helps humans to understand the procedure and take the right decision.
- From e-commerce giants too small to medium-sized business MI helps to manage their sales and predict future risks with transparency.
- Moreover, it helps in relationship management because of its faster, simpler and proven practices in administrative work.





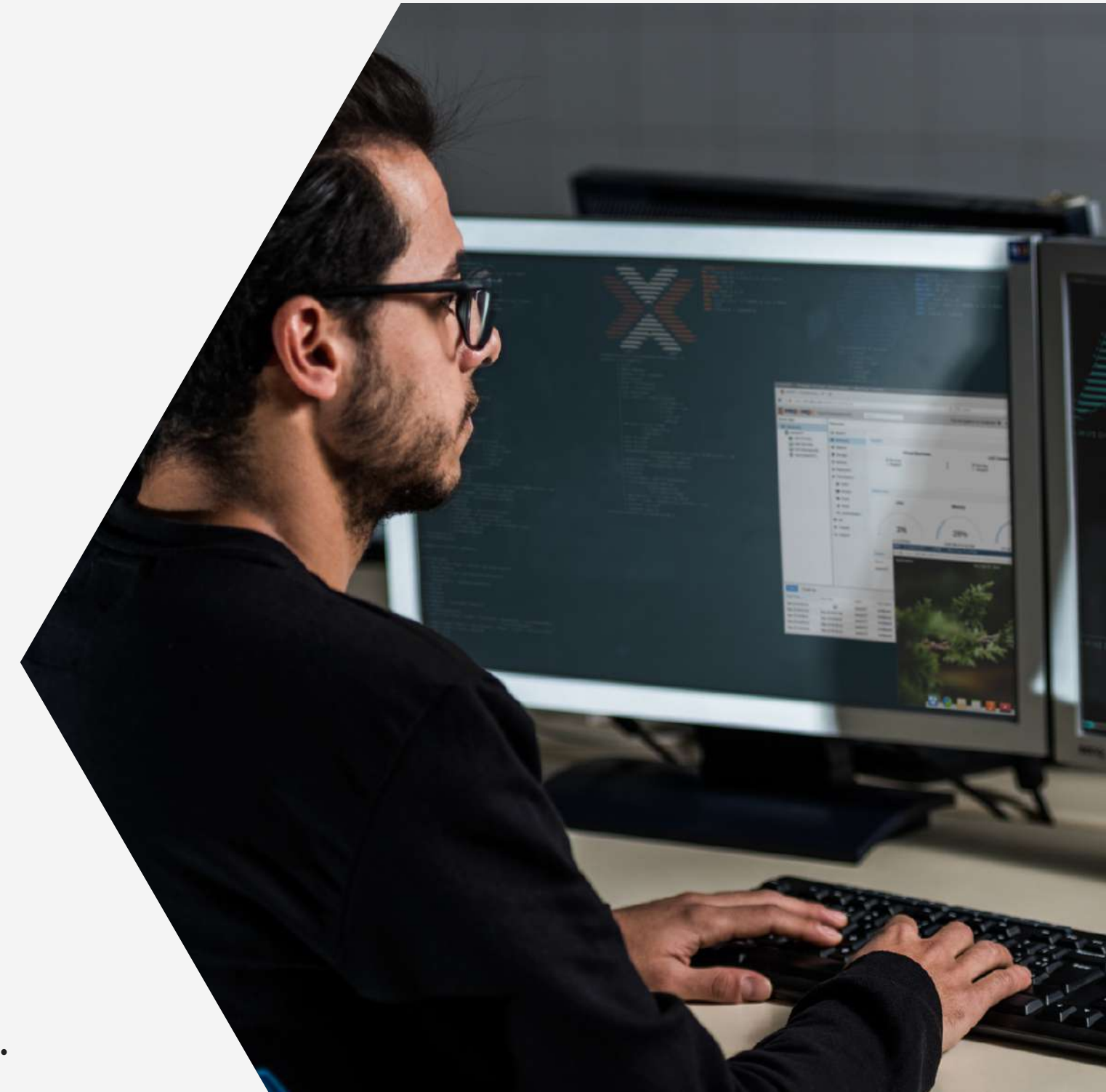
## 4. Quick solution for problems

- MI helps to resolve problems quickly with the help of previous data. The MI prediction is based on outcomes of the past results from data.
- It is best to deal with unbiased analysis of quantified factors to generate the best outcome.

# Interpretation based on Machine Learning

- ML is a way of [Programming with Artificial Intelligence](#). It replaces set rules of calculations with the program. With the given set of data, algorithms statistics, it combines and represents in a model form.
- These models will make predictions based on the input data.

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- It involves computer-aided modelling for supply chains. It is a process to enhance performance and limit risks with concrete predictions. With the [Help of Data Collection,](#)
- MI concludes with precise algorithms. MI is perfect to manage the supply chain and deal with all the risk involved in it.

# FUTURE RESEARCH TOPICS

S.No	Type of Data	Algorithm	Purpose	References
1	Patients data	Machine Learning	To identify key biomarkers to predict the mortality of individual patient	[1]
2	Ontology database(risk hidden danger database)	OntoLFR(Logistics Financial Risk Ontology + Apriori algorithm)	To adapt to the variability, complexity and relevance of risk in early warning and pre-control.	[2]
3	Cloud Database	Block chain machine learning-based food traceability system	The blockchain data flow is designed to show the extension of ML at the level of food traceability. Moreover, the reliable and accurate data are used in a supply chain to improve shelf life.	[3]
4	Business Data	Statistical approach for power control based upon multiple costing frameworks using a machine learning model (SCM-MLM)	To evaluate idleness and create techniques to optimize the profitability of the enterprise. The maximization of trade-off capacity against organizational performance is demonstrated and it is seen to be organizational inefficiency by power optimization has been validated	[4]
5	Data from physical sources (e.g. ERP, RFID, sensors) and cybersources (e.g. blockchain, supplier collaboration portals, and risk data)	Digital supply chain twin – Industry 4.0	Research and practice of SC risk management by enhancing predictive and reactive decisions to utilize the advantages of SC visualization, historical disruption data analysis, and real-time disruption data and ensure end-to-end visibility and business continuity in global companies.	[5]

## Conclusion

- The efficiency level of the supply chain is crucial for businesses. Operating businesses with tight profit margins and with certain improvements can impact the overall profit line of the business.
- [MI Technologies](#) make the job simple to deal with various challenges of forecasting and volatility demand involved in supply chains.
- Moreover, it ensures efficiency, profitability and better management of the supply chain.

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