



Data has a better idea

**MLOPS**

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**The Assembly Line for Data Science**

# Agenda

- About Myself
- Data Science in Retail
- Data Science Lifecycle
- What is MLOps ?
- Why MLOps ?
- Components of MLOps
- Tools for MLOps
- Components of MLOps
- Lets Code

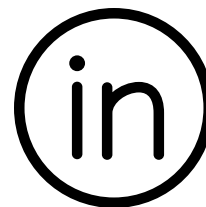
# About Myself



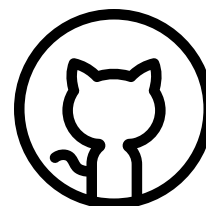
**Hi.**

My name is Manoj

- 4.5 years of experience as Data Scientist
- Worked with companies like Walmart Labs, Rolls-Royce PLC etc
- Started my career as a DS trainer at INSOFE.
- Have been training/mentoring professionals to break into Data Science.
- Currently finishing my Msc in ML & AI from Upgrad, IITB, LJMU
- Also, starting my MBA this month
- Freelancing in my free time.



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# Data Science in Retail

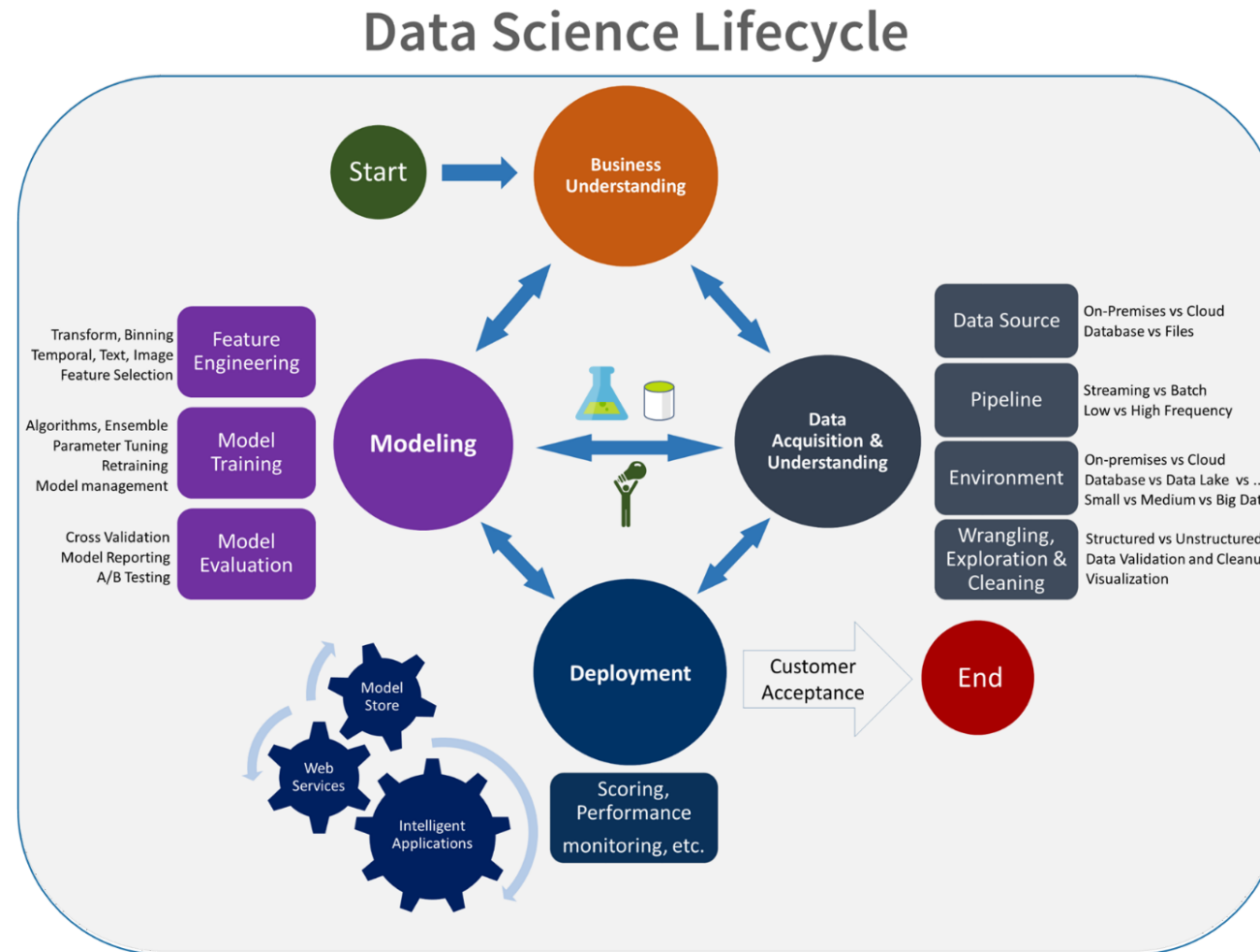
Example AI/ML use cases across the retail value chain



Source : <https://cloud.google.com/blog/products/ai-machine-learning/top-10-ai-use-cases-in-retail>

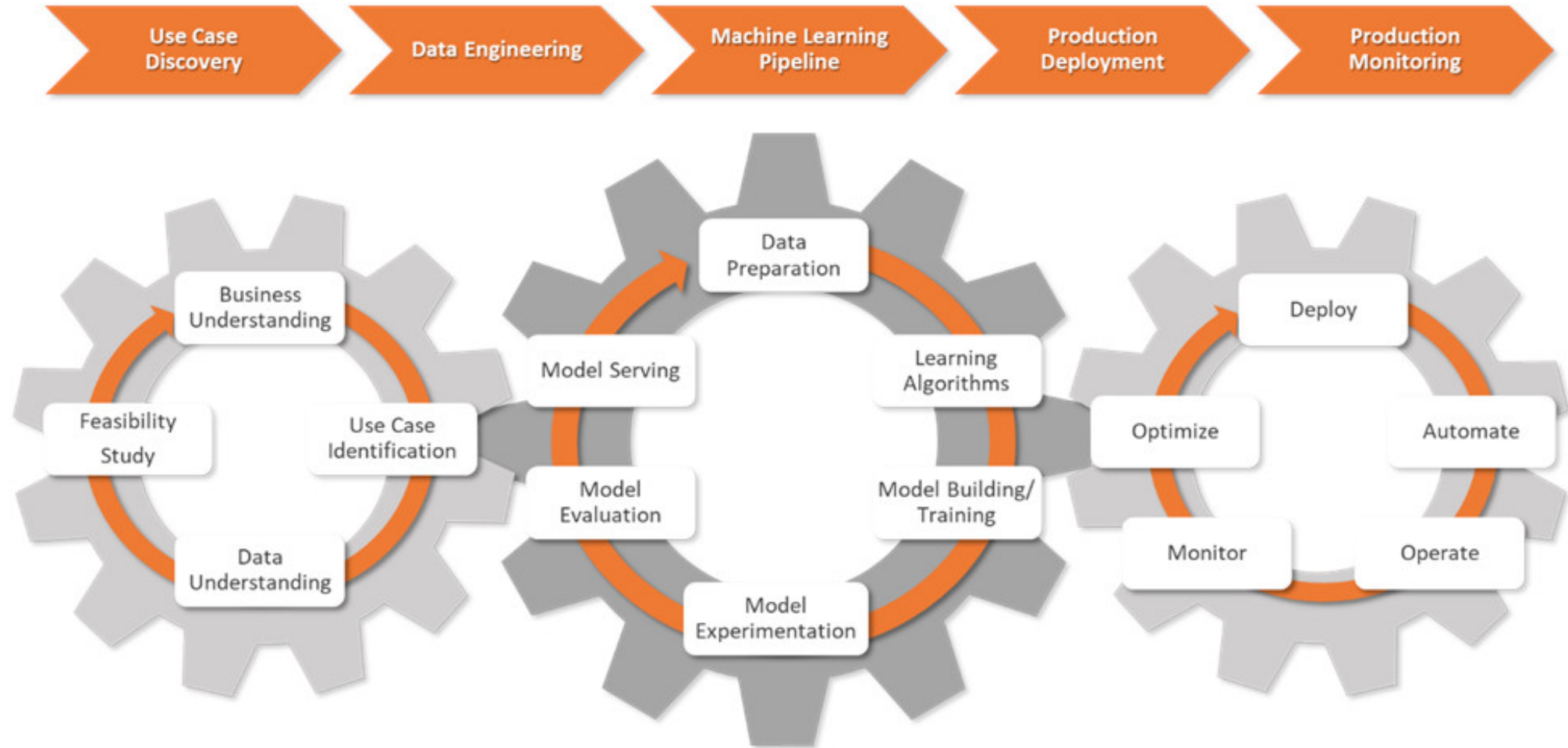
Use cases are not listed in any particular order

# Data Science Lifecycle



Source : <https://docs.microsoft.com/en-us/azure/architecture/example-scenario/mlops/mlops-technical-paper>

# What is MLOps ?

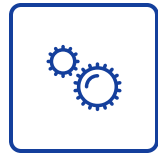


Source : <https://docs.microsoft.com/en-us/azure/architecture/example-scenario/mlops/mlops-technical-paper>

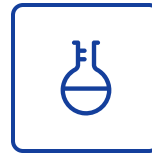


# WHY MLOPS ?

87% of the models do not go into production \*



Code Versioning



Tracking  
Experiments



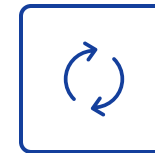
Data/Model  
Governance



Unclear Job  
Responsibilities



Blackbox Models



Continuous  
Learning



Data Quality

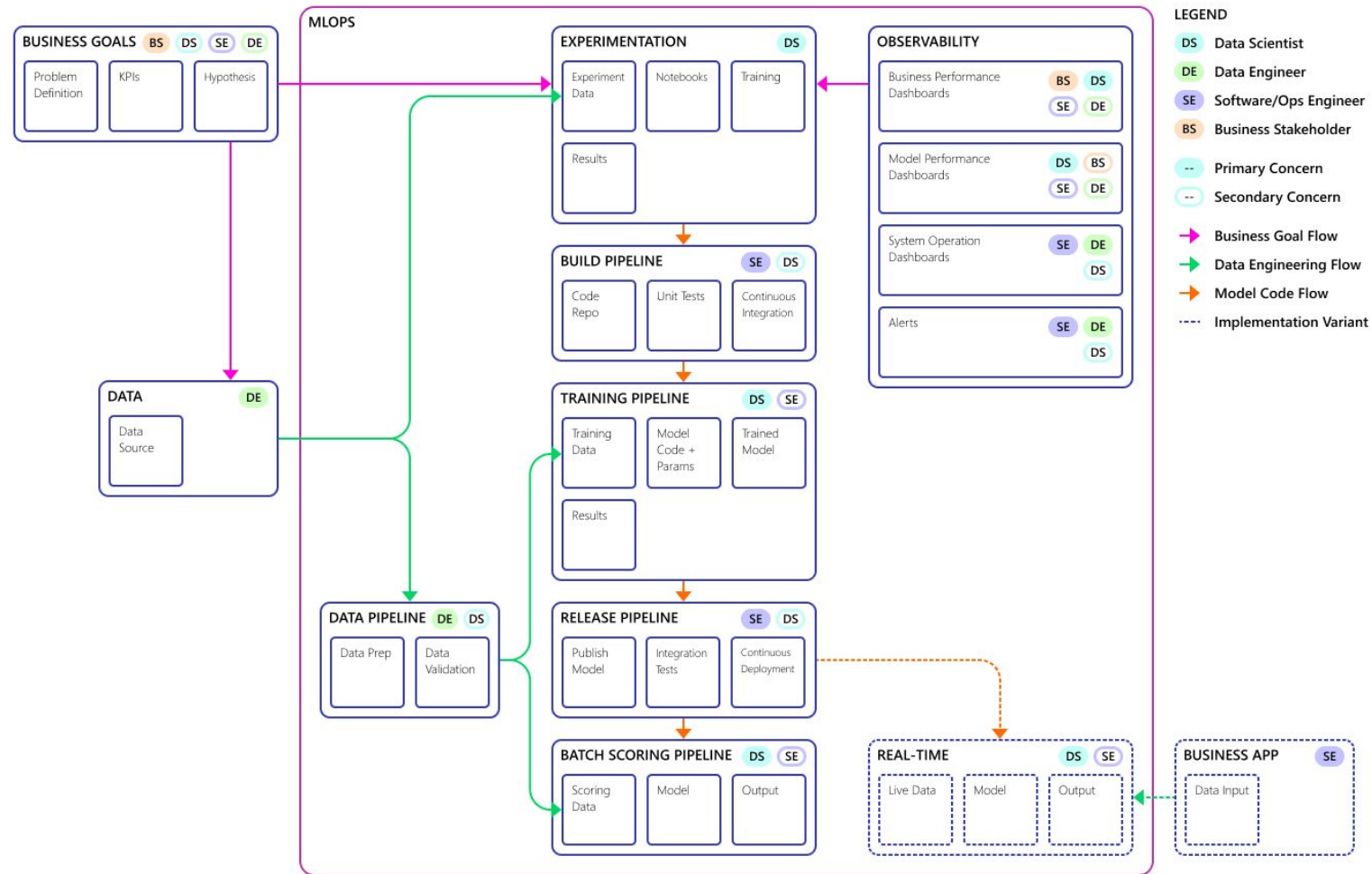


Scaling &  
Deployment



CI/CD

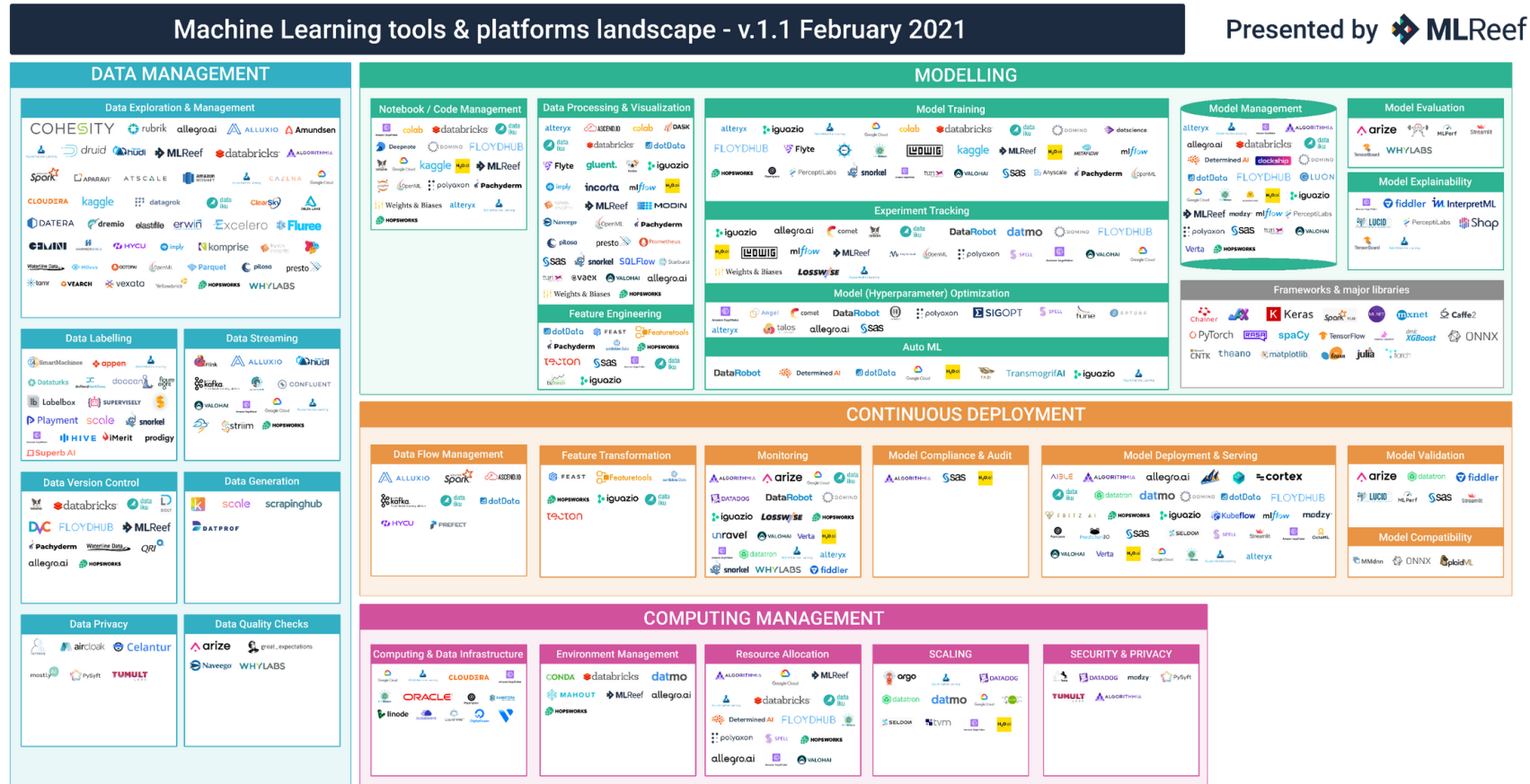
# Components of MLOps ?



Source : <https://docs.microsoft.com/en-us/azure/architecture/example-scenario/mlops/mlops-technical-paper>



# Tools used in MLOps ?



[https://about.mlreef.com/images/blog/ml\\_landscape.png](https://about.mlreef.com/images/blog/ml_landscape.png)

<https://www.datarobot.com/platform/mlops/>

Source : <https://about.mlreef.com/blog/global-mlops-and-ml-tools-landscape>



LETS DO SOME HANDS ON

# References

- <https://ml-ops.org/>
- <https://github.com/visenger/awesome-mlops>
- <https://dev.to/amananandrai/tools-for-efficient-mlops-machine-learning-devops-1al4>
- <https://docs.microsoft.com/en-us/azure/architecture/example-scenario/mlops/mlops-technical-paper>
- <https://venturebeat.com/2019/07/19/why-do-87-of-data-science-projects-never-make-it-into-production/>
- <https://www.kdnuggets.com/2020/12/mlops-why-required-what-is.html>
- <https://cloud.google.com/architecture/mlops-continuous-delivery-and-automation-pipelines-in-machine-learning>
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- Github Repo : [https://github.com/Manoj15/BMSIT\\_ML\\_Session](https://github.com/Manoj15/BMSIT_ML_Session)