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Increasing the Success Rate of Al and ML Systems Deployment at the Enterprise Level

SE Pathways to Al Now www.incose.org

The Problem



- It was estimated that <u>85%</u> of AI projects will fail and deliver erroneous outcomes through 2022.
- 70% of companies report minimal or no impact from AI.
- <u>87%</u> of data science projects never make it into production.

https://research.aimultiple.com/ai-fail/

But, why?

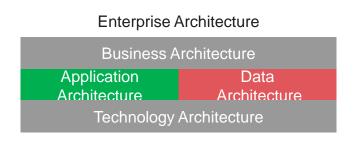


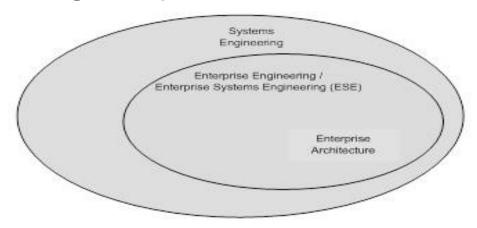
- Unclear business objectives
- Poor data governance
- Lack of collaboration between teams





Enterprise Architecture as a System Engineering discipline - Marcin Ros



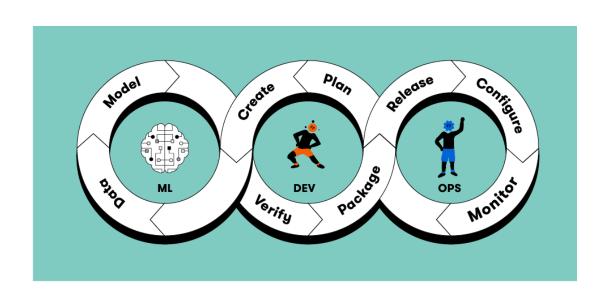


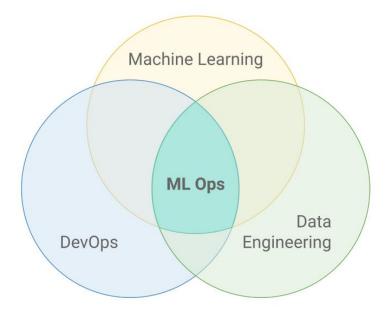
- SE and EA
- EA is a coherent whole of principles, methods, and models that are used in the design and realization of an enterprise's organizational structure, business processes, information systems, and infrastructure
- EA can also bridge innovation and operations
- EA assists with the SE strategic (big picture) perspective as a tool
- By 2023, 60% of organizations will depend on EA's role to lead the business approach to digital innovation - Gartner

MLOps



 A set of practices that aims to deploy and maintain machine learning models in production reliably and efficiently.

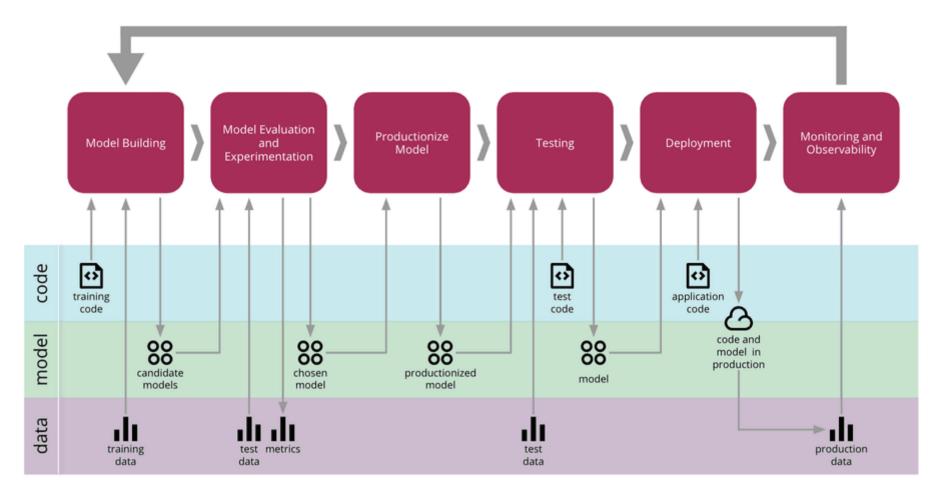




MLOps alone is not good enough for ML/AI to meet the mission and successfully be deployed.

MLOps

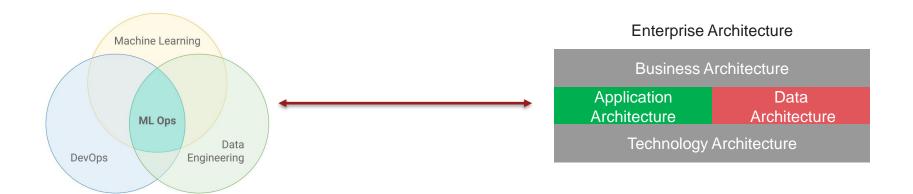




martinfowler.com, 2019

AI/ML and the Business



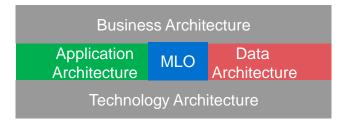


A successful machine learning project isn't just about deploying a working app. It's about delivering positive business value and making sure that you keep delivering it.









- SE4AI
- Define MLOps as an augment between Application and Data architecture layers
- Unique aspect of AI/ML projects require EA integration
- MLOps alone is not good enough for ML/AI to meet the mission and successfully be deployed





- Diving deeper into MLOps: feature store, DataOps, ModelOps
- Risk of not utilizing EA in a data-driven design at the enterprise level
- DevOps vs MLOps
- Deep dive discussions for the next phase of research
- Let's connect and work together to further the research!