

Detailed Course Information: Monitoring

Sl. No.	Data Type	Comments
1	Course Name	Monitoring with XOPs as operationalizing business value
2	Content Source	White papers and publications from founders of Bee-Relevant
3	Brief Description / Introduction of Course	<i>The objective of this course is to explain and develop the notions of monitoring and maintenance. We develop a solution per design which is based on the XOPs mindset (MLOPs / DevOPs). We guide you through the best practices to put in place to get a proper architecture which is future-proof, state of the art and which will not cause any delay in the development of the solution and its operationalization.</i>
4	Why do we need this course?	The time when a data expert was seen only as a model provider is revoluted. Now, in organization, there is an entire eco-system surrounding data from the ideation phase to operationalization phase. The silos are broken and business, IT and data experts are closely collaborating end to end (at least they have to if they plan to be effective). But what happens after the operationalization? Most of the time, squads are dissolved leading to possible delays in resolution of shut-down systems or in case of data/model drifts. But there are ways to mitigate this risk. It is the reason why we need this course.
5	Learning Outcomes	<ul style="list-style-type: none"> • <i>Introduce the notions of monitoring, maintenance and MLOps</i> • <i>Introduce the challenges of monitoring and their possible impacts</i> • <i>Introduce the notions of technical debt, hidden technical debt and total cost of ownership</i> • <i>Focus on the hidden technical debt for AI and data science projects</i> • <i>Development of a per design solution for monitoring via XOPs mindset</i> • <i>Discuss roles and responsibilities</i> • <i>Provide use cases</i>
6	Course Length	<i>4 Modules</i>
7	Estimated Effort	<i>1-2 hours/module (including homework and Q&A sessions)</i>
8	Prerequisites	<i>None</i>
9	Skills Acquired:	

	Module 1: Introduction to monitoring	Definition and challenge understanding around monitoring
	Module 2: Data science specificities	Definition of technical debt and total cost of ownership, focus on data science specificities leading to the hidden technical debt concept and data science capabilities.
	Module 3: Per design solution	Definition and development of DevOps, MLOps, proper architecture and roles/responsibilities
	Module 4: Use cases	Practical use cases

Module 1: Introduction to Monitoring

Lecture	Video Name
Lecture 1	Welcome to Module-1
Lecture 2	Definition of monitoring, technical debt and MLOps
Lecture 3	A few examples
Lecture 4	Challenges with monitoring
Lecture 5	What to monitor?
Lecture 6	References
Lecture 7	Wrap up
Key Terms	<i>Monitoring, technical debt, MLOps, metrics, silo effect</i>

Module 2: Data science specificities

Lecture	Video Name
Lecture 1	Introduction to module
Lecture 2	Definition of technical debt, hidden technical debt and total cost of ownership
Lecture 3	Specificities of technical debt in data science
Lecture 4	Capabilities to consider in architecture for data science
Lecture 5	Wrap up
Key Terms	<i>Technical debt, hidden technical debt, prototyping, optimization, version control, configuration, testing, defensive programming, documenting, refactoring, coding style, manage individuals,</i>

Module 3: Per design solution

Lecture	Video Name
Lecture 1	Introduction to module
Lecture 2	Definition of DevOps
Lecture 3	Definition of MLOps

Lecture 4	Architecture
Lecture 5	Roles and responsibilities
Lecture 6	How to monitor?
Lecture 7	Wrap up
Key Terms	<i>DevOps, MLOps, roles and responsibilities (people, tech and product), architecture, drifts</i>

Module 4: Use case

Lecture	Video Name
Lecture 1	Introduction to module
Lecture 2	Use case in insurance
Lecture 3	Homework
Lecture 4	Wrap up
Key Terms	<i>Use case, homework, insurance</i>

