

Detailed Course Information: XAI

Sl. No.	Data Type	Comments
1	Course Name	Transparency through Explainable AI (XAI)
2	Content Source	Multiple online sources, among which a cornerstone being the book “Interpretable Machine Learning” by Christoph Molnar
3	Brief Description / Introduction of Course	The objective of this course is to provide the student with the tools to better understand the AI echo-system and ensure that such a system are introduced into an organization successfully, not introducing biases and performing reliably. All of this combined with a governance and trustworthy system that will be adopted by the business
4	Why do we need this course?	It is common practice that the modeling process is not done to strict standards, with this course we focus on ensuring that what the models produce makes sense, is reliable, legal and in line with business needs. We link all aspects of the process and explain exactly where the biggest dangers lie within the model building and deployment process and how to avoid these dangers
5	Learning Outcomes	<ul style="list-style-type: none"> • <i>Understand how to correctly interpret an ML model</i> • <i>Understand where and how to detect biases, both intentional and unintentional</i> • <i>Creation of an AI/XAI governance frameworks</i> • <i>High level overview of the statistical methods of analysing ML model performances</i>
6	Course Length	<i>4 Modules</i>
7	Estimated Effort	<i>1-2 hours/module (including homework and Q&A sessions)</i>
8	Skills Acquired:	
	Module 1: Introduction to XAI	This module will introduce the students to the topic of XAI focusing on the core topics that will be handled in the course
	Module 2: Seeing is Believing	Here we will focus on practical examples of how XAI is applied (no code) and explicitly use real-life examples of how XAI is used

	Module 3: Ignorance is Bliss	Not applying XAI is a recipe for disaster. XAI is a fundamentally important step in the entire process and not applying have catastrophic consequences
	Module 4: Common XAI Tools	In this module we take a look at the different tools available to monitor and enable organizations and teams to put XAI at the forefront

Module 1: Introduction to XAI

Lecture	Video Name
Lecture 1	Skynet
Lecture 2	whois x.ai
Lecture 3	Governance
Lecture 4	Goals of XAI
Lecture 5	XAI Methods : A Primer
Lecture 6	<i>XAI – The Problem Solver</i>
Lecture 7	<i>Professor XAI</i>
Lecture 8	<i>A Team Effort</i>
Lecture 9	<i>Work In Progress</i>
Key Terms	<i>Explainability, transparency, governance</i>

Module 2: Seeing is Believing

Lecture	Video Name
Lecture 1	Introduction
Lecture 2	How
Lecture 3	When
Lecture 4	Where
Lecture 5	Didn't See That Coming
Lecture 6	Oops...
Lecture 7	Consistency
Lecture 8	To Update, Or Not To Update?
Key Terms	<i>AI Life Stages, Monitoring, Deployment, Evaluation</i>

Module 3: Ignorance is Bliss

Lecture	Video Name
Lecture 1	Introduction
Lecture 2	Blunders
Lecture 3	Impact
Lecture 4	Ownership
Lecture 5	Nobody is Safe
Lecture 6	Missed the Bus
Key Terms	<i>Governance, Opportunity, Model Evaluation, Explainability</i>

Module 4: Common XAI Tools

Lecture	Video Name
Lecture 1	Introduction
Lecture 2	First Things First
Lecture 3	Okay, Now What?
Lecture 4	Inspector XAI
Lecture 5	Costs
Lecture 6	Recap
Lecture 7	That's All Folks
Key Terms	<i>AI Lifecycle, APIs, Monitoring, Deployment, Model Drift, Costs</i>