Ethical and Responsible Use of Data and Predictive Models Certificate Program – Executive Track

Learning Objectives

While these learning objectives are similar to those for the full certificate program, the coverage in the Executive Track provides less depth, particularly with regard to technical modeling details.

Module 1 – Ethical and Responsible Use of Data and Predictive Models

Learning Objective

At the conclusion of Module 1 the participant will be able to:

1. Understand the ethical concerns around using data and predictive models.

Module 2 – Regulation and Ethical Framework

Learning Objectives

At the conclusion of Module 2 the participant will be able to:

1. Distinguish between ethical and legal issues
2. Understand how market and regulatory context affects models (in the sense that what is permissible varies by jurisdiction and product)
3. Understand a general ethical framework for evaluating data and analytics use cases

Module 3 – Data

Learning Objectives

At the conclusion of Module 3 the participant will be able to:

1. Understand common types of statistical bias in big data (e.g., selection, observer, survivorship, cognitive) and the techniques for mitigating associated risks.
2. Recognize how to ask appropriate questions in determining if the risks of using prohibited and/or high-risk data or combinations of data have been mitigated.
3. Understand the types of data that may be collected, both ethically and legally, including issues around different levels of prohibitions. This includes understanding what and why particular data sources are selected, and what alternative data sources are available.

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Module 4 – Analytics & Modeling

Learning Objectives

At the conclusion of Module 4 the participant will be able to:

1. Understand the risks to insurers and insureds of modeling approaches.
2. Understand the importance of model explicability and the difficulties associated with models that are commonly viewed as black boxes in applying ethical frameworks to modeling.
3. Understand common types of statistical bias in predictive analytics (i.e., selection, observer, survivorship, cognitive) and the techniques for mitigating associated risks.
4. Understand the risks and implications of algorithmic bias and proxy discrimination.

Module 5 – Implementation

Learning Objectives

At the conclusion of Module 5 the participant will be able to:

1. Understand that the ethical considerations of feature selection need to be investigated not only during the model-build phase but also during the monitoring phase post deployment.
2. Understand how implementation choices, out-of-model adjustments and monitoring can be used to mitigate the risk of unintended model effects such as model biases.

Module 6 – Organization Approach to Governance

Learning Objectives

At the conclusion of Module 6 the participant will be able to:

1. Understand how teamwork and communication are critical for model development and deployment to reduce the risk of unintended biases and unanticipated outcomes.
2. Understand that responsible use of data and models requires assigning accountability.