

Introduction to Bayesian Belief Networks and their applications in the field of marketing science

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Abstract: Bayesian Belief networks have emerged as a new form of probabilistic knowledge representation and probabilistic inference engine through the seminal works of UCLA Professor Judea Pearl. Over the last 25 years the properties of Bayesian networks have been fully validated in the world of academia and they are now becoming powerful and practical tools for “deep understanding” of very complex, high-dimensional problem domains. Their computational efficiency and inherently visual structure make Bayesian Belief networks very attractive for Expert Knowledge Modeling, Data mining, and Causal Analysis.

This tutorial will provide an introduction to the wide-ranging applications of Bayesian Belief networks in the field of marketing science. Participants do not need to have any prior familiarity with Bayesian Belief networks. We will start the seminar by illustrating the conceptual foundations using several textbook examples. This will include an overview of unsupervised learning (knowledge discovery), supervised learning (dependant variable characterization), data clustering (segmentation), variable clustering (to find hidden concepts), and Probabilistic Structural Equation Models (mainly applied for drivers analysis).

Intended Audience: Researchers and Practitioners who want to discover practical applications of Bayesian Belief Networks for data analysis.

Prerequisites: No prior knowledge is required other than a basic familiarity with mathematical and statistical concepts.

Related Links: White papers, Tutorials, Case Studies and Webinars are available on our website (<http://www.bayesia.com/en/products/bayesialab/resources.php>).

Equipment: We encourage all participants to provide us with their email addresses, so we can activate their 30-day license of BayesiaLab 5.0 Professional prior to the tutorial. This will allow all trainees to participate in the training exercises on their own laptops.