Advanced Analytics in Devices and Pharma — Real World Solutions to Manage Risk and Regulation

**Abstract:** Real-world case studies of advanced analytics in the spinal and orthopedic devices and pharma industries are presented. These are specific cases where advanced analytics drive industry, regulatory affairs, and ultimately touch real patient lives. Examples show that the successful industrial data scientist needs to span the methodological range from structural models including dynamical systems and causal models to empirical probabilistic and statistical methods.