

Algebraic Statistics

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Algebraic statistics advocates polynomial algebra as a tool for addressing problems in statistics and its applications. This connection is based on the fact that most statistical models are defined either parametrically or implicitly via polynomial equations. The idea is summarized by the phrase "Statistical models are semialgebraic sets". I will try to illustrate this idea with two examples, the first coming from the analysis of contingency tables, and the second arising in computational biology. I will try to keep the statistical prerequisites to an absolute minimum and keep the talk accessible to a broad audience.