There are several real-world applications of Bayesian networks that can be intriguing. One such application is in the field of healthcare, where Bayesian networks have been used for medical diagnosis and prediction. By incorporating patient data and medical knowledge, Bayesian networks can aid in the identification of diseases, prediction of patient outcomes, and personalized treatment recommendations. I think there are lots of problems when trying to implement these models though. For example, the complexity of making these massive and super accurate models is in handling large amounts of patient data and medical knowledge and combining it all together, as well as dealing with uncertainty in the data. The last thing I noticed was scalability. From what I have garnered online is that it can also be a challenge when applying Bayesian networks to healthcare, as the networks need to be updated with new data and knowledge continuously, which you also run into the issue of compute cost and e-waste when upgrading GPU’s and data storage systems. I have not personally run into any into many real-world problems that this could solve, but in my line of work, you might be able to predict with a certainty level of certainty of someone overdosing or some of the other medical problems they might have in the future.

References,

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