

1145-62-2414 **A. K. Criner*** (amanda.crinet.1@us.af.mil), 2230 10th Street, Wright Patterson AFB, OH
45433. *How Your Data Will Lie to You*. Preliminary report.

(Alternate titles: Lies, darn lies, and results presented without assumptions acknowledged, and The crimes and consequences of zero mean, identically, independently distributed error) Zero mean, identically, independently distributed (i.i.d.) error is implicitly assumed in many data analysis algorithms. These assumptions are explained in example simulated data sets. Strategies to recognize violations in these assumptions are demonstrated on the example data sets. The consequences of violation of each of these assumptions include bias, over confidence and under confidence. Resources for accommodating the violation of the zero mean i.i.d. error assumption are presented. (Received September 25, 2018)