

R. Clifton Bailey Statistics Seminar Series

Empirical likelihood for the bivariate survival function under univariate censoring

Yichuan Zhao

**Department of Mathematics and Statistics
Georgia State University**

**Johnson Center G19 – Gold Room
[4000 University Drive, Fairfax, VA 22030](https://www.gsu.edu/locations/Johnson-Center-G19-Gold-Room)**

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Abstract: The bivariate survival function plays an important role in multivariate survival analysis. Using the idea of influence functions, we develop empirical likelihood confidence intervals for the bivariate survival function in the presence of univariate censoring. It is shown that the empirical log-likelihood ratio has an asymptotic standard chi-squared distribution with one degree of freedom. A comprehensive simulation study shows that the proposed method outperforms both the traditional normal approximation method and the adjusted empirical likelihood method in most cases. The Diabetic Retinopathy Data are analyzed for illustration of the proposed procedure.