

"On a More Efficient Use of Quadratic Logistic Discrimination"

**Dean M. Young and Samuel L. Seaman
Baylor University
Waco, Texas**

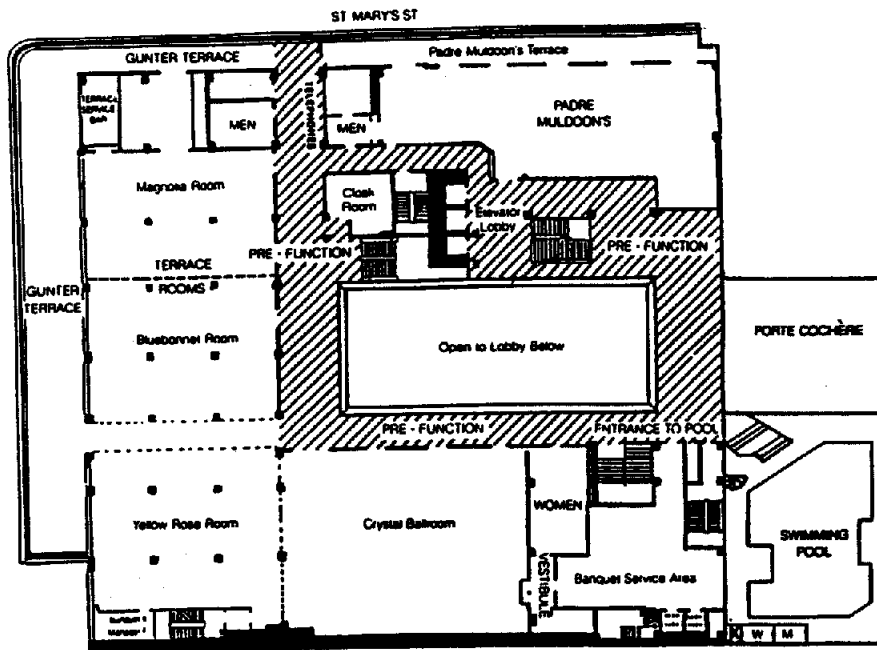
Abstract

Quadratic logistic discrimination has often been avoided in applied statistical discrimination research, in part, because a large number of parameters must be estimated whenever there are more than just a few predictor variables under study. A dimension reduction procedure derived by Peters, Redner, and Decell, and made applicable by Tubbs, Young, and Odell, can be used to combat the ill effects of dimensionality in the quadratic logistic discrimination problem.

We demonstrate that, under certain population configurations, the technique is theoretically correct. In addition, we have utilized a Monte Carlo simulation study (written in the IML procedure) to compare our proposed strategy for quadratic logistic discrimination (with dimension reduction) to the quadratic logistic discrimination without dimension reduction and to a dimension reduction procedure for the quadratic logistic function suggested by Anderson. The proposed algorithm is simple to use (documented code is available) and offers good classification accuracy.

[Note: We regret that this paper was not available when the Proceedings was printed, and we apologize for the inconvenience. Editor]

Mezzanine Level



Third Level

