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The CPR Method and Beyond

In 1974, A. R. Curtis, M. J. D. Powell, and J. K. Reid published a seminal paper on the estimation of Jacobian matrices which was later coined as the CPR method. Central to the CPR method is the effective utilization of a priori known sparsity information. It is only recently that the optimal CPR method in its general form is characterized and the theoretical underpinning for the optimality is shown. In this talk we provide an overview of the development of computational techniques and software tools for the estimation of Jacobian matrices over the last 30+ years.