Topic: Methods for Unconstrained Optimization

In this talk, I will introduce two compromises on Newton's method: Quasi-Newton methods and the Steepest-descent method. First, we will learn the algorithms and software designs of the methods and then we discuss numerical three dimensional quadratic problem. Next, we will compare the cost of Quasi-Newton and Steepest-descent method. Then, I will give BFGS and symmetric rank formulas for Quasi-Newton and compare the results that we get from each formula. Finally, we discuss the convergence rates of the methods.