In this paper, the Duan-Rach Approach (DRA) was used to obtain an approximate analytical solution of squeezing unsteady nanofluid flow. An approximate analytical solution can be obtained for a velocity and a temperature profile. This method modifies the standard Adomian Decomposition Method (ADM) by evaluating the inverse operators at the boundary conditions directly. The obtained results show a good agreement with numerical method (fourth order Runge-Kutta algorithm). The algorithm derived from this approach can be easily implemented.