

## Solving continuous trajectory and forward kinematics simultaneously based on ANN

### ABSTRACT

Robot movement can be predicted by incorporating Forward Kinematics (FK) and trajectory planning techniques. However, the calculations will become complicated and hard to be solved if the number of specific via points is increased. Thus, back-propagation artificial neural network is proposed in this paper to overcome this drawback due to its ability in learning pattern solutions. A virtual 4-degree of freedom manipulator is exploited as an example and the theoretical results are compared with the proposed method.

**Keyword:** Artificial neural network (ANN); Back propagation neural network; Continuous trajectory; Forward kinematics