

## Artificial Neural Network in FIRST Robotics Team-Based Prediction System

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**Abstract :** The purpose of this project was to develop a neural network based on qualitative team data to predict alliance scores to determine winners of matches in the FIRST Robotics Competition (FRC). The game for the competition changes every year with different objectives and game objects, however the idea was to create a prediction system which can be reused year by year using some of the statistics that are constant through different games, making our system adaptable to future games as well. Aerial Assist is the FRC game for 2014, and is played in alliances of 3 teams going against one another, namely the Red and Blue alliances. This application takes any 6 teams paired into 2 alliances of 3 teams and generates the prediction for the final score between them.

**Keywords :** artificial neural network, prediction system, qualitative team data, FIRST Robotics Competition (FRC)

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