

## **MSO21: Investigating the Middle Game of Chinese Chess**

### **Abstract**

DEEP BLUE's victory over World Chess Champion Kasparov in 1997 generated great interest in computing algorithms to play not only international chess but also Chinese Chess. This project aims to determine the factors that affect the middle game of Chinese Chess and investigate these factors to model an indicative function. This indicative function computes the advantage of a player at a certain point in time by providing a probabilistic indication if a player can defeat his opponent based on the situation. So far, the various factors that affect the middle game have been determined and investigated. The indicative function is formulated using these factors: the material value of the pieces, the relationship between pieces, the flexibility of pieces and the position of the pieces. From these factors, the advantage of a given player at a certain instance during the middle game of Chinese chess can be computed. An algorithm has also been computed based on the indicative function, allowing a user to determine his best move from the current situation. This project offers an efficient new method for Chinese Chess players to further hone their chess skills and possesses potential commercial value.