

## Applied Artificial Intelligence Project - 3

**Username:** zodiac123

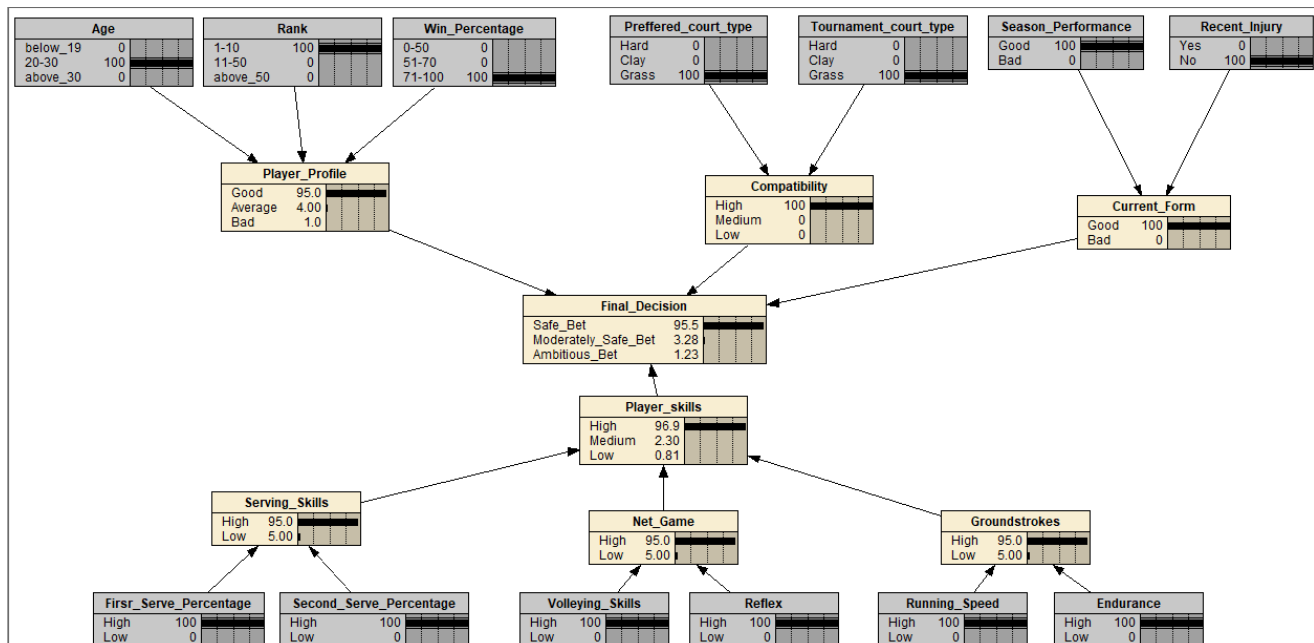
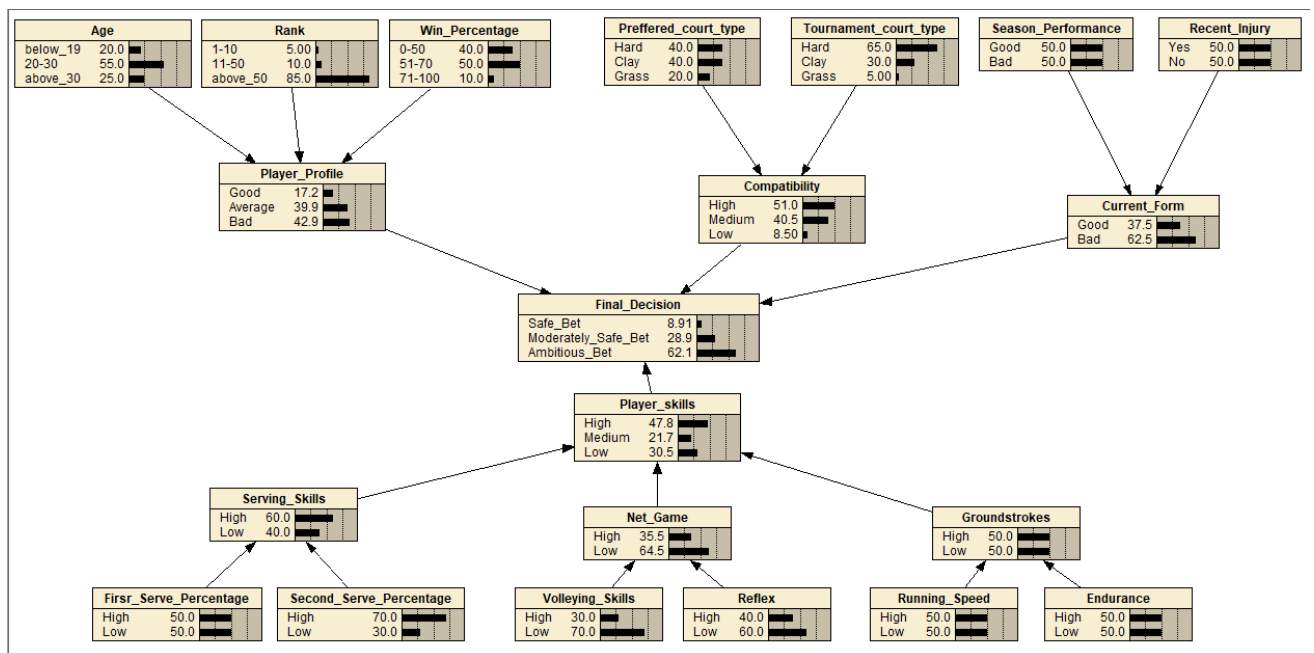
**Domain:** Tennis Players Prediction using Bayesian Networks in Netica

Tennis Player Predictor is designed using the Bayesian Network into evaluate player credentials based on game play attributes. There are online legal gambling websites like bet365.com where the users can bet on a player legally. Tennis Player Predictor helps the user to make a bet on a certain player by analyzing various parameters. There are three possible decisions which the Tennis Player Predictor will provide based on the analysis done, which are as follows 1) Safe Bet 2) Moderately Safe Bet 3) Ambitious Bet. This is done by analyzing various parameters like player profile, player skills, court compatibility and current form of the player.

### **Parameters based on which the evaluation is done:**

1. **Player Profile:** This parameter considers various factors like Age, Rank and Win Percentage of the player.
2. **Court Compatibility:** Compatibility check is done by comparing the preferred court type of the player with the court type of the tournament. Compatibility is said to be high when a clay court player is participating in a clay court tournament or when a grass court player is participating in a grass court tournament. But having said that Hard court players are flexible in this case i.e. they can adapt to clay or grass court tournaments. This is because of the hard court conditions. Grass and Clay court condition is said to differ a lot whereas the hard falls right in between grass and clay court. If we consider pace as a parameter here, grass is said to be the fastest, clay court is said to be the slowest and clay court has moderate pace.
3. **Current Form:** This parameter plays a major role in determining the outcome of the player. Here factors like physical state[fitness] and the current season's performance of the player is considered.
4. **Playing Skills:** Here we evaluate the basic skills of a tennis player. For example, service, net game and groundstrokes these three factors form the basic skillset of a tennis player. If the player is poor at all these three skills mentioned above it would not be advisable to bet on the player.

Test Case:



Instructions to run:

1. Open "Tennis.dne" on Netica
2. Compile it
3. Vary the probabilities to see changes in the result