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Generic Trajectory Model for Network Centric Warfare Enhanced Using Data Mining

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In Network Centric Warfare, there are three basic grids/levels of command viz. Sensor, Information and Shooter grid. Sensor grid mainly consists of sensors such as RADAR, etc. gives the view of the war field which is usually an input to later grids. Information grid consists of network of computers and communication media. Its main function is to formulate strategies in order to have an upper edge over the enemy. It takes input and feedback from sensor grid and gives command to shooter grid. Shooter grid is the physical weapon system which follows the commands given by information grid. Its main function is to ensure that the specified strategy is followed. The project is included in the domain of shooter grid. Its function is to predict the trajectory (path followed by projectile) of an unguided projectile in order to give accurate factors before firing the weapon. This would ensure that the intended target is hit. This trajectory is purely based on branch of physics called as Ballistics. Also the trajectory should be predicted in bounded time as it is a time critical scenario. There is always a tradeoff between the accuracy and time constraint. To handle this, three trajectory models are provided with increasing order of accuracy but also increase in prediction time. The choice of model depends mainly on the battle scenario. Further the time required to calculate the intended factors can be reduced by taking into account the previous data/experience using data mining.

Biography

Navin Bhagwan Mordani is currently pursuing his graduation in Computer Engineering from Pune Institute of Computer Technology. His research interests are mainly data Mining and Machine Learning.

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