The provided Python script employs the Bat Algorithm for feature selection and optimization in a machine learning context. The algorithm initializes a population of bats with random positions, velocities, and frequencies. The bats then search for optimal solutions by adjusting their positions based on their fitness scores. The fitness is determined by evaluating the accuracy of a logistic regression model trained on the selected features. The algorithm iteratively refines the solution over a specified number of iterations. The selected features, along with their corresponding accuracy, are extracted and normalized. Finally, the script uses the selected features to split the dataset for further analysis or modeling. The resulting features and split datasets are stored in the 'ttsbat' variable for potential downstream use.

The provided Python script implements the Sparrow Search Algorithm (SSA) for feature selection in a machine learning context. The algorithm iteratively evaluates and updates the selected features based on their fitness scores. It employs a probabilistic approach, considering the influence of fitness and step size parameters. The selected features are then normalized and further evaluated using the chi-squared test. The script organizes the resulting features and split datasets into the 'ttsssa' variable for potential downstream use. Overall, the SSA algorithm offers a mechanism for automated feature selection, potentially enhancing the performance of machine learning models on the given dataset.

The provided Python script implements the Squirrel Search Algorithm (SSA) for feature selection in a machine learning context. This algorithm iteratively evaluates and updates the selected features based on their fitness scores, considering factors such as distance, direction, and randomness. The selected features are then normalized and further evaluated using the chi-squared test. The script organizes the resulting features and split datasets into the 'ttsqsa' variable for potential downstream use. Overall, the SSA algorithm provides a mechanism for automated feature selection, potentially enhancing the performance of machine learning models on the given dataset by adaptively exploring the solution space.