This Bayesian Optimization code uses a probabilistic approach to find the best input values for an unknown function, minimizing the number of function evaluations. Imagine a scenario where testing each possibility is costly—like designing an efficient car engine. Instead of trying every design, this method predicts the most promising designs to test next, based on prior results.

The method starts with a few random tests and builds a statistical model (Gaussian Process) to represent the function. Then, it uses this model to decide the next best test point. Over several iterations, the algorithm focuses