Particle Swarm Optimization: Intelligent Parameter Tuning

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Abstract—**Particle Swarm Optimization (PSO) is a optimization algorithm that models the flocking behaviour of certain species of animals in order to solve stochastic real-value problems. These algorithms use control parameters to make slight adjustments to how the swarm behaves. In this paper the author will be discussing the results of using a brute force approach to find these control parameters.**

I. INTRODUCTION

A Particle Swarm Optimisor (PSO) is, as described by Lazincia [1], an optimization algorithm that attempts to emulate the flocking/schooling behaviour of birds or fish when searching for food. This optimization can occur in a number of dimensions, each spanning across $\mathbb{R}$ [2]. Each particle in the swarm has two primary components of influence: cognative and social. A third component, called the inertia weight, is used to regulate the maximum velocity that a particle can move at in a certain direction [3]. In this paper, the author will explore the feasibility of finding the optimum value for each of these components by using a brute force search in a subset.

II. BACKGROUND

III. IMPLEMENTATION

IV. RESEARCH RESULTS

V. CONCLUSION

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