Localization and Rover Home Approach

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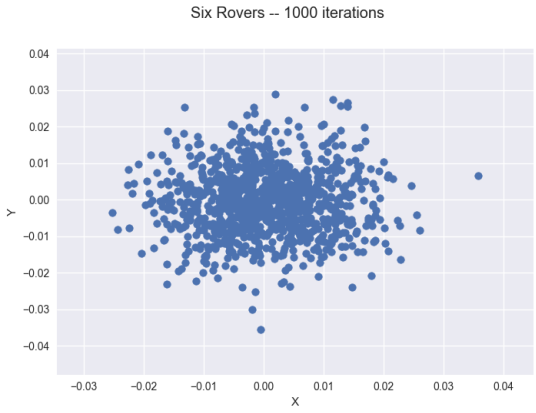

***Abstract*— Something abstract.**

I. Introduction

Compexity of multi-agent systems can be broken down into two pieces: 1) clear and current inter-agent communication, and 2) percision agent localization about a global point of reference. To successfully accomplish a group task, each agent needs to have relavant, accurate infromation about it's neighbors and be able to correctly determine its own location. Characterized by low-cost, high-quantity demands, the challenge surrounding swarm robotics has thus been how to maintain high performance with economical sensors that are prone to error. These observations prompted us to develop, then evaluate alorgithms that seek to eliminate noise within data feedback. To this end, we propose a unique approach for dynamically calculating agent location within a multi-agent network.

Proposed by [1]

II. Problem Statement

III. Results

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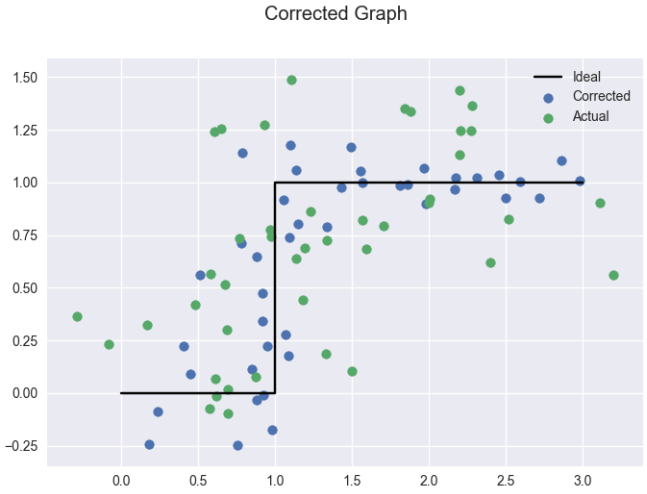
Modeled below is graph of the localization of a single rover. The ideal path can be seen in black, originating at the origin (0,0) and traversing to point (1,3).

- Mean Square Error = 0.964
- R^2 Regression Score = 0.0067



IV. Conclusion

References

[1] R. Becker, A. Carlin, V. Lesser, and S. Zilberstein, "Analyzing myopic approaches for multi-agent communication," *Computational Intelligence*, vol. 25, no. 1, pp. 31–50, 2009.