How to use the Lisp code in this repository

This repository contains computer code in Allegro Common Lisp for running the simulations of information diffusion in flocks of wild birds, as reported in Shultz, Montrey, and Aplin (2017).

There are 4 top-level functions in the program copy7.cl:

* run-saturation (n nu nx ny nb p algorithm) Use for running simulations in paper section 3.1 Time to Achieve Consensus
* run-to-cycle (n nu nx ny nb max p algorithm) Use for running simulations in sections 3.2 (Diffusion of Information), and 3.5 - 3.7 (Groups with Two Behavioural Variants, Proportion of the Seeded Behavioural Variant, Percent Changes in Majority and Minority States).
* run-to-cycle-persist (n nu nx ny nb max p algorithm) Use for running simulations in section 3.3 Naive Agents Joining an Experienced Group.
* run-to-cycle-switch (n nu nx ny nb max p algorithm) Use for running simulations in section 3.4 Agents Joining a Group with a Different Solution.

where n is number of replications, nu is number of uncertain, nx is number of decided x, ny is number of decided y, nb is number of byzantine, max is number of cycles, p is probability of copying, & algorithm is AM, AC, or CIU.

In each of these top-level functions, change the path setting to suit your particular computer and path for storing results.

Example function calls are included in copy7.cl after the function definitions.

Use a Lisp compiler like that from Franz.com to speed up your simulations.

The simulations in paper sections 3.8 and 3.9 use the Java code in the BAM Branch of this repository.