

## sdmay18-04: Animal Locomotion and Behavior Simulated by Genetic Algorithms

Week 8 Report

October 31 - November 6

### Team Members

Rob Quinn — *Project lead, Sim lead programmer, client communications*

Joe Sogard — *Web lead, Backend programmer*

Joe Kuczek — *Full stack web, SCRUM master*

Luke Oetken — *Simulation programmer, Status reporter*

Andrew McKeighan — *Simulation programmer*

Kenneth Black — *Simulation programmer, Machine Learning*

### Summary of Progress this Report

This week, the simulation programmers continued development of animal models and training functions of the current prototype, as well as the development of the ML-Agents prototype. We worked on the core agent scripts such as the brain, academy, and decision scripts in order to get the new prototype working with the ML-Agents framework. We also continued development of the new two-legged animal model. The web programmers reassessed and re-implemented the structure of the database, and continued work on the project website front-end.

### Pending Issues

It has come to the team's attention that the method used by the website to communicate with the simulation may differ significantly depending on the structure of the machine learning process used in the simulation, and as this structure is not yet final, this is an important issue to consider.

### Plans for Upcoming Reporting Period

Next week we plan to continue the development of the ML-Agents prototype, as well as the new models and training functions. We will also research and experiment with how the website and simulation should communicate.

### Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Rob Quinn	Running and testing genetic algorithms to enhance functions	2	30
Joe Sogard	Reassessed and re-implemented the structure of the database, made creation scripts	2	22
Joe Kuczek	Looked over issues on Trello, made plan for how data should be displayed on frontend website.	3	24

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Luke Oetken	Worked on new agent training scripts	3	33
Andrew McKeighan	Continued work on fitness class.	2	22
Kenneth Black	Continue working on two-legged movement.	2.5	22.5