Department of Computer Sciences
University of Salzburg

PS Natural Computation
SS 13/14

SIMMA
Design and implementation of a robot task demonstration the effect of neuromodulators

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Project Members:

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Abstract

The main goal of this project is designing a task that demonstrates that the usage of neuromodulators can influence the evolution of a neural network in a positive way. For implementation and simulation of the task we use SIMMA "a simulation framework mainly developed for the simulation of mobile autonomous robots and their behaviour".

1 Introduction

2 Milestones

- 19.03.2014 - 02.04
  - Research: artificial neural networks, evolutionary programming, affects of neuromodulators in neural networks, Simma documentation Webpage creating
- 02.04.2014 - 30.04.2014
  - Experiments with Simma: Playing with config files and general simulations parameters
  - Study of classes: Mainly Reporter.java and PegPushingReporter.java
  - XML (Config Files) structure
  - Redesign of webpage
  - First version of abstract
- 01.05.2014 - 14.05.2014
  - Start implementation
  - First tests
    - Ghost
    - Fitness

3 Progress of Work

Week 1, Wednesday, 05.03.2014

- Gruppenfindung

Week 2, Wednesday, 12.03.2014

- Themenfindung

Week 3, Wednesday, 19.03.2014

- Aufgabe finden
- Verantwortlichkeiten Aufteilen

Week 4, Wednesday, 26.03.2014

- Aufgaben überlegen und diskutieren

Week 5, Wednesday, 02.04.2014

- Recherche über
  - Recherche Neuromodulatoren
  - neuronale Netze
  - SIMMA
- Taskdesign

Week 6, Wednesday, 09.04.2014

- Weitere Recherchen

Week 7, Wednesday, 23.04.2014

- Simma Installation
- Einlesen in SIMMA

Week 8, Wednesday, 30.04.2014

- Neugestalung der Projektseite
- SIMMA "testen"
- Diskutieren über die Implementierung des Tasks

Week 10, Wednesday, 07.05.2014

- Start mit der Implementierung unseres Projektes
  - Erweiterung: Ghost
  - Erste Testläufe

4 Subproject Responsibilities

Auinger Tobias

- Project leader
- Project Page
- testing
- presentation

Müller Christian

- Design
- evaluation of our results
- testing
- presentation

Pollhammer Andreas

- Implementation
- presentation

Schwarz Stefan

- Implementation
- documentation
- presentation

5 Links

- Project Page: `http://student.cosy.sbg.ac.at/~cmueller/natcomp/`
- PS Page: `http://www.cosy.sbg.ac.at/~helmut/Teaching/NaturalComputation/proseminar.html`