

**Autonomous Intelligent Systems,  
Institute for Computer Science VI, University of Bonn**

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**Exercises for Artificial Life (MA-INF 4201), SS24**

**Exercises sheet 13, till: Mon 14. July, 2025**

7.7.2025

**Remark:**

This assignment sheet is designed to make you work with the content of the lecture. Although no points can be achieved with this assignment sheet, you can present the results in the exercise groups to practice presentation and to get the approval for the exam.

**Assignment 84** (No Points)

Describe the major ideas and principles of Evolutionary Robotics.

Try to find some scientific accepted reference for this (Wikipedia is not enough), that has not been mentioned in the lecture on Mon 7.7.25.

**Assignment 85** (No Points)

The subsumption architecture is a special kind of a hierarchical architecture. Describe the properties of the subsumption architecture in your own words. If appropriate draw a diagram to support your explanations.

**Assignment 86** (No Points)

There are two mechanisms how the higher levels of the subsumption architecture influence the lower levels. Describe them and visualize them in two diagrams. Don't forget to label and explain the values inside the circles.

**Assignment 87** (No Points)

We have seen the Ant Algorithms. Is there something like a *Bee Algorithm*? Can you describe it, and cite where you found it.

Prepare questions for the next lecture: Mon 14.7.25