

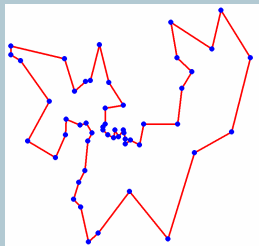
Immunological Inspired Distributed Learning Environment (IIDLE)

Using ideas from the mammalian immune system to address hard problems

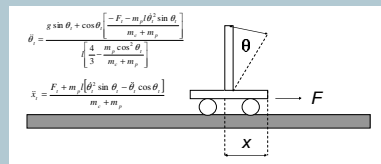
Hard Problems

There are hard problems that can be represented in a digital computer that are impervious to the increases in memory capacity and CPU clock cycles. The difficulty of these hard problems can stem from the huge number of possible solutions or from complex and dynamically changing constraints.

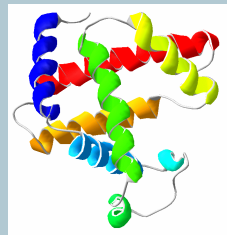
Hard Problem Examples



Travelling Salesperson Problem



Control System Design



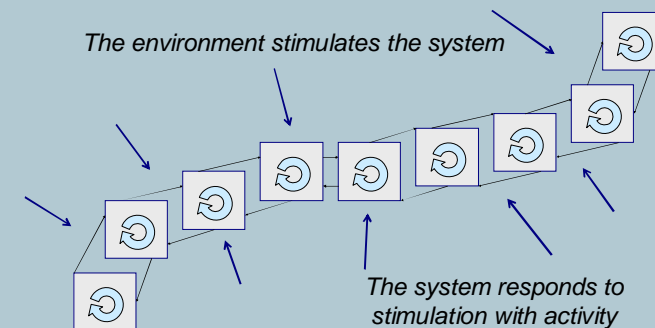
Protein Folding

Help from Biology

Some biological systems are very effective at solving problems that match or exceed the complexity of state-of-the-art engineering problems. Methods employed by biology can provide potent inspiration for computer algorithms to address hard problems.

You only get Chickenpox Once!

Immune systems learn from experience and protect an organism from external biological influences such as viruses and bacteria. Because the acquired immune system is capable of learning, and has a number of useful features, we can exploit this biological system in computer algorithms.



Immunological Inspired Distributed Learning Environment

The IIDLE project provides a powerful learning system that has been imbued with some of the desirable features of the immune system. The platform is distributed, decentralised, and scalable (like the Internet), making it amenable to addressing multiple problem constraints in parallel with varied search techniques.

