

TUTORIAL

Automated Synthesis of Intelligent Machines

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In this tutorial I will describe different techniques to automate the design and construction of intelligent machines, such as robots. It is expected that complex machines will be able to design and repair themselves in the future, achieving higher levels of autonomy and resiliency.

I will show how the cognitive processes of self-modeling and self-reflection might help to produce machines with the capability to self-repair after damage and to automatically synthesize compensatory resilient behaviors.

At the end I will show demonstrations of rapid prototyping techniques for the fabrication of real robots that can be automatically obtained using computational synthesis techniques.