

## STIQUITO for beginners - An Introduction to Robotics

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**T**he world of robotics is a fascinating place, filled with moving parts and microchips. Robots have jumped out of the pages of science fiction into the real world. Robotic technology has become a vital part of modern manufacturing and a challenging hobby for many Robot Builders. Building robots can be very difficult because it involves much planning. Due to the cost, size, shape and complicity of robotic components it is easy to see why robotics is usually left to the experts. These barriers can discourage many hobbyists from making their own creations.

But thanks to a material named Nitinol, even beginners can create small, inexpensive, lightweight, walking robots. Nitinol has the properties of contracting when heated, and returning to its original size when cooled. This material has the ability to give robots true muscle-like propulsion which did not exist until recently.

**STIQUITO for beginners: An Introduction to Robotics** gives a step-by-step guide to building a working insect-like robot and it even comes with all the parts you need. This book provides a beginner with plenty of knowledge about robots and the engineering properties behind how they work. This book has even been used by some high schools to introduce students to the world of electricity and electronics.

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### Book Reviewed by

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The first of nine chapters gives a brief history of robotics and the invention of Stiquito. This chapter also describes how Stiquito works, the skills needed to build a Stiquito robot and even how this guide came to be.

In Chapter 2, Engineering Skills and the Design Process are discussed. This chapter describes what an Engineer does, how they go about designing things and solving problems.

In Chapter 3, The basics of electricity and electronics are discussed and some simple experiments are given to show how electricity and electronic components work.

In Chapter 4, The basics of Nitinol, how it works and how it is used to make Stiquito walk are covered. This chapter also provides simple experiments to show Nitinol in action.

In Chapter 5, The building of Stiquito, there are step-by-step instructions on how to assemble the (robot kit included in the book) main body of Stiquito. Some of these assembly steps are tricky if you have never stripped small gauge wire before. Be sure to practice before attempting to build this robot.

In Chapter 6, The Manual controller is the final step to make Stiquito walk. This chapter gives step-by-step instructions on assembling a simple tethered controller for Stiquito.

In Chapter 7, The PC-Based controller (requires additional hardware not included with book) allows you to use your PC to control the robot's actuators and experiment with various gaits.

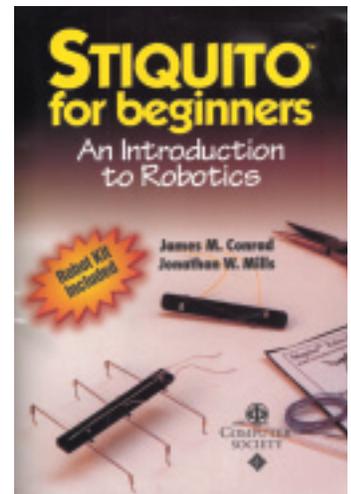
In Chapter 8, A simple electronic circuit is described to make Stiquito walk autonomously. Again, this requires additional hardware not included with the book.

The final chapter then describes the future of walking robots and gives some ideas on how you can use the robot you just built.

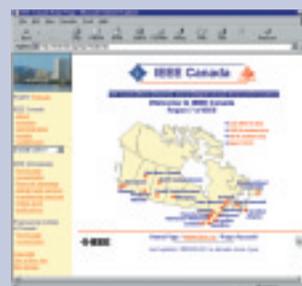
To summarize, this book is a great guide for anyone interested in building robots or for teaching an introductory course on electricity and electronics. The information is well organized and provides good illustrations and schematics for assembly and experimentation.

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