Computers, robots, computer networks and mechatronic systems, all these non-human resources invade the domain of cognition: computations, games, translations, computer vision, speech recognition, ability for robots to follow a human, or replication of movements taught by gestures. This is the field of automated cognition, "Cognitics", which requires to be managed accurately, quantitatively, technically.

Now what is intelligence, learning, or abstraction? How to assess complexity? How much knowledge is required to play "heads or tails? How much information contains the page that you have before you? How much does it take to describe a pipe?

Classical theories do not answer satisfactorily most of these questions.

The book discusses again some classical bases, then brings new contributions. It provides for the first time in an integrated form, illustrated with many examples, and yet concisely, the main elements of the "MCS" theory for cognitive sciences, gradually developed, demonstrated and published by the author in the scientific literature, in the past decades.

ISBN 978-2-9700629-1-2

Roboptics Editions also available on www.lulu.com

Cognitics

Cognitics

Definitions and metrics for cognitive sciences and thinking machines

Jean-Daniel Dessimoz

```
SleepAGN(0.05); break; case
if(!SignalIn(NSIStart))
  GoState(6);
else
tate(20); break; case
DemarrerMatchAGN(); // start 90 s timer etc.
break; case
21: SignalOutAGN(NSOAspirateur, true) ; // start motor vacuum
break; case
22: SignalOutAGN(NSORouleauIN, true) ; // start motor brush
break; case
23 : ApproAGN(HoleNb1, 15); break; case
24: MoveAGN(HoleNb1); break; case
25: MoveAGN(Trans(173,90,-90)); break; case
26: ObserverLigneAGN(NL, NCStart, NCStop) // visual analysis of a row
if (N2Jaune>0) // totems are yellow; balls are white
{PositionTotemOuBalle[1].TypePosition=Totem;
nbTotem = nbTotem+1;}
else
PositionTotemOuBalle[1].TypePosition=Balle;
break; case
```