

Chapter 1

INTRODUCTION TO INTELLIGENT SYSTEMS AND SOFT COMPUTING

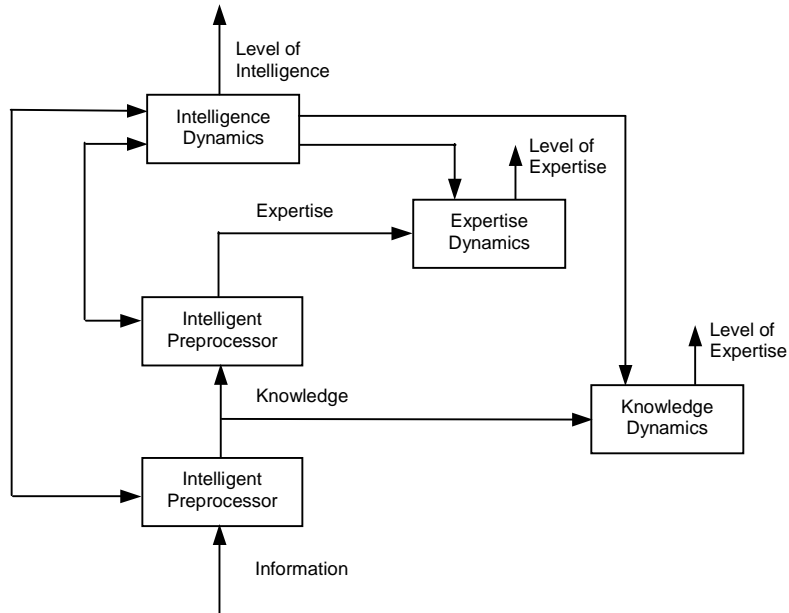


Figure 1.1. A schematic model for the dynamics of intelligence.

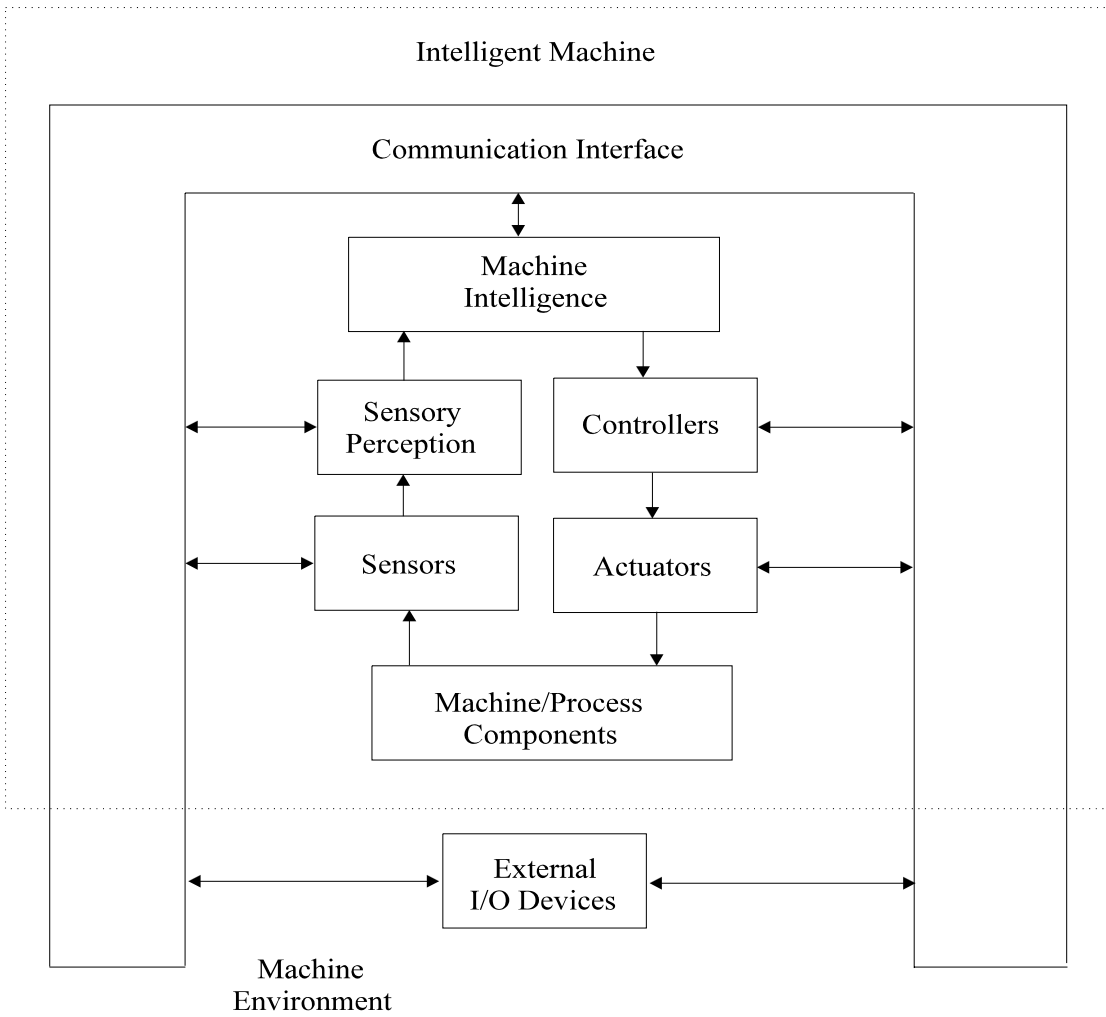


Figure 1.2. An intelligent machine.

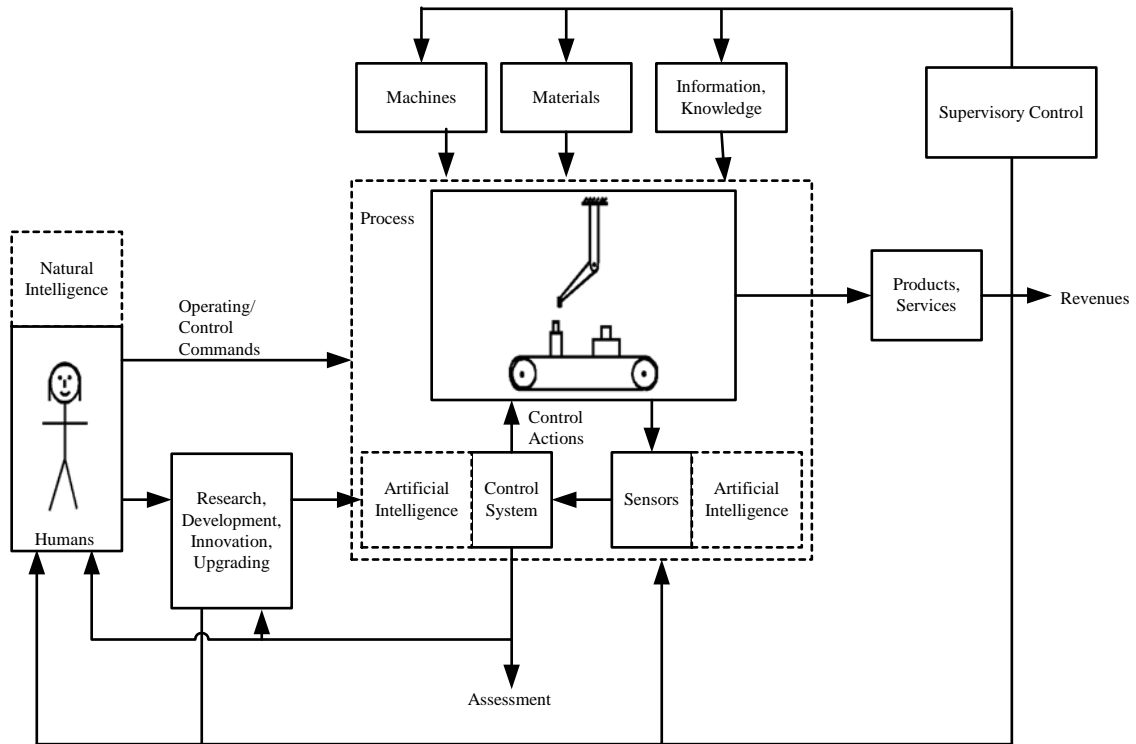


Figure 1.3. The structure of an intelligent process.

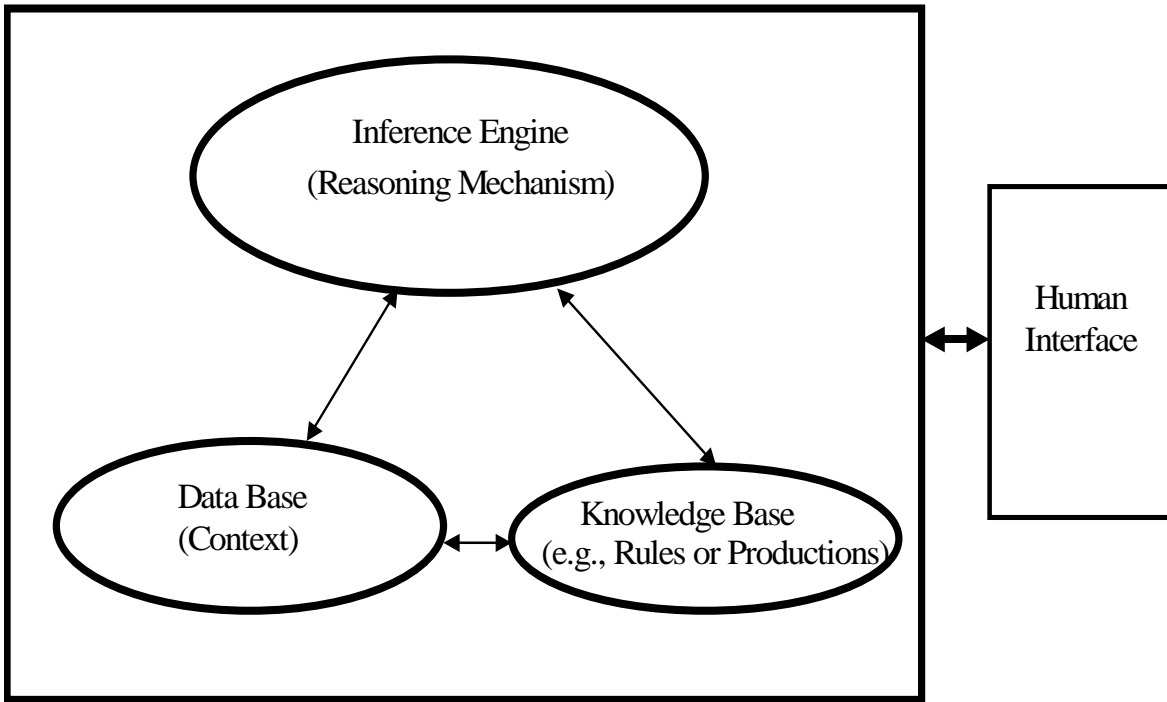


Figure 1.4. The structure of a knowledge-based system.

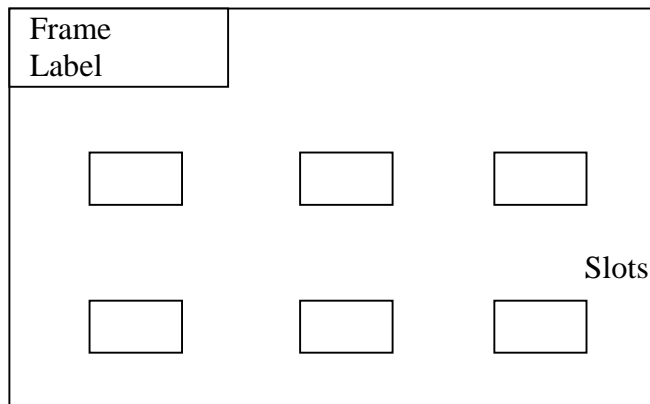


Figure 1.5. Schematic representation of a frame.

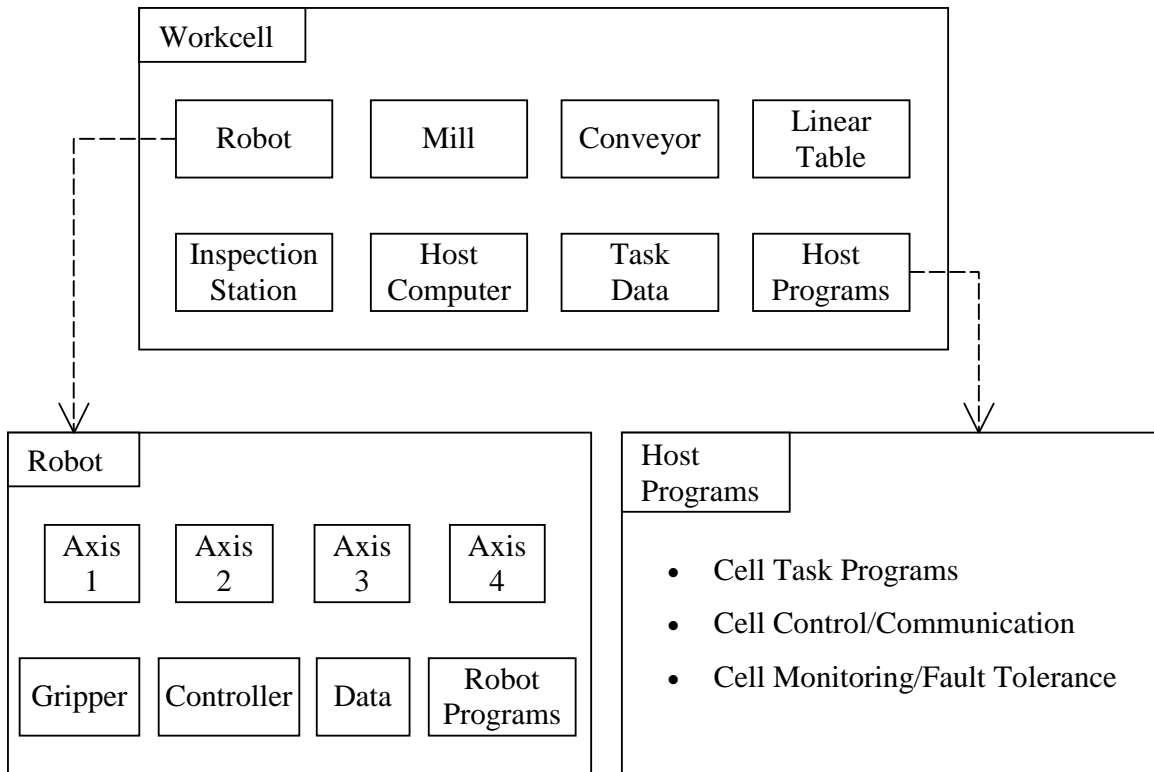


Figure 1.6. Representation of a manufacturing workcell using frames

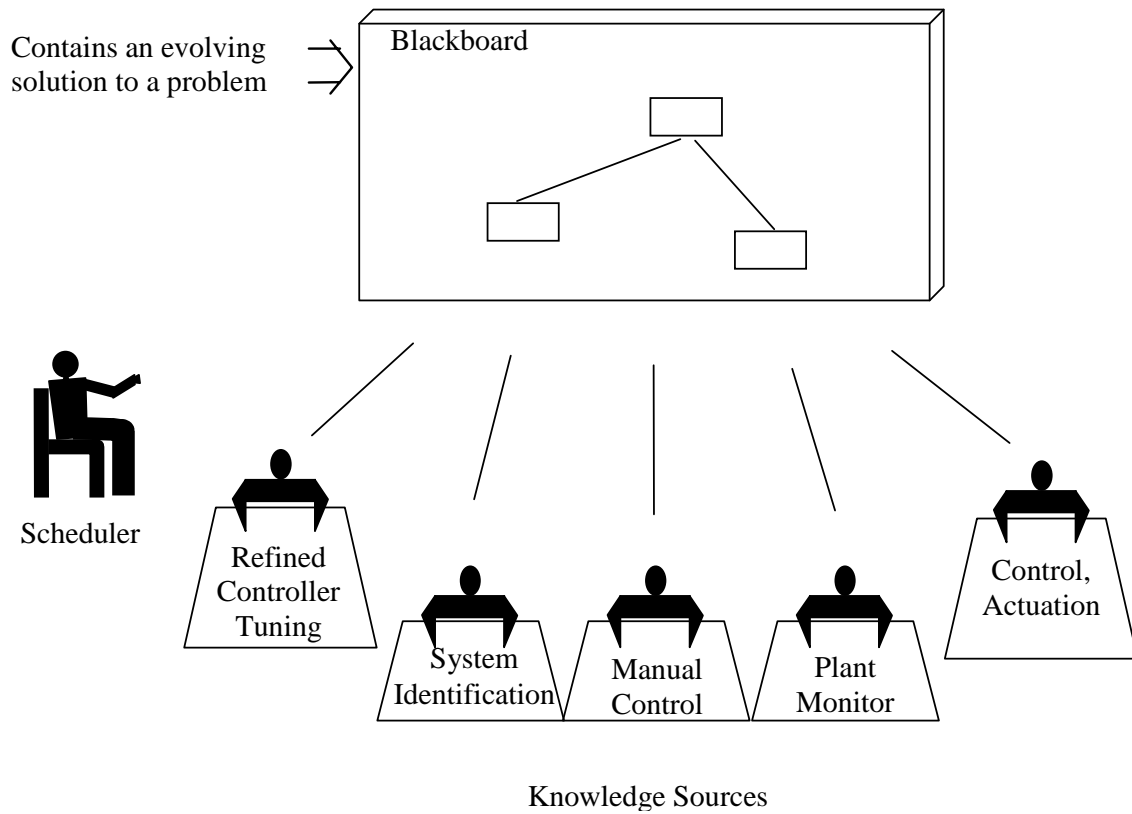


Figure 1.7. A blackboard architecture.

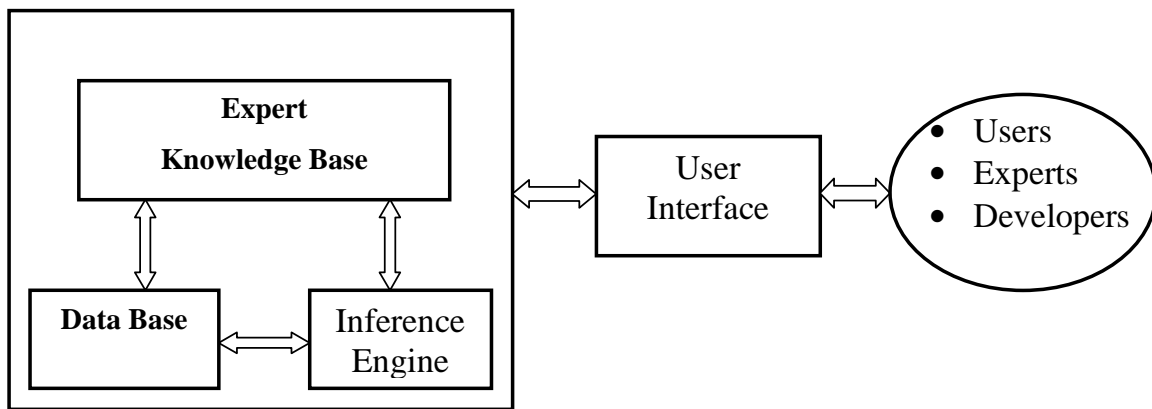


Figure 1.8. Components of an expert system.

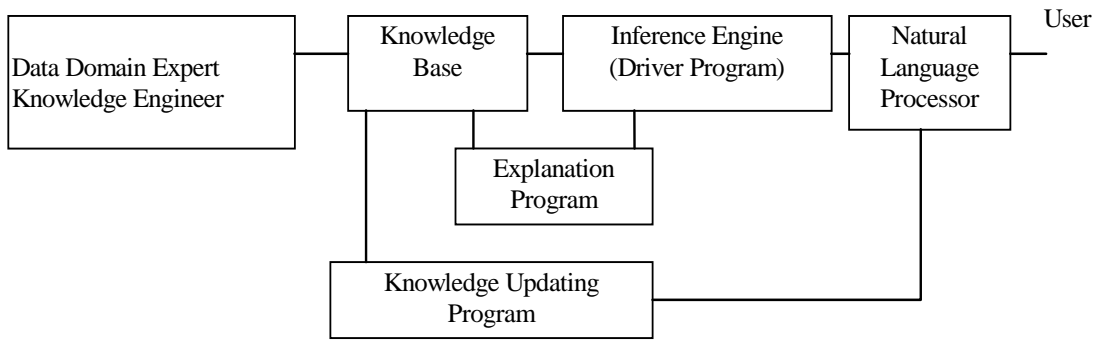


Figure 1.9. Operational schematics of an expert system.

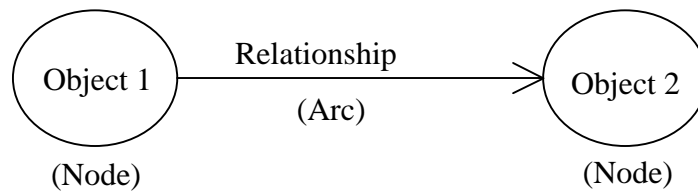


Figure 1.10. A Segment of a semantic network.

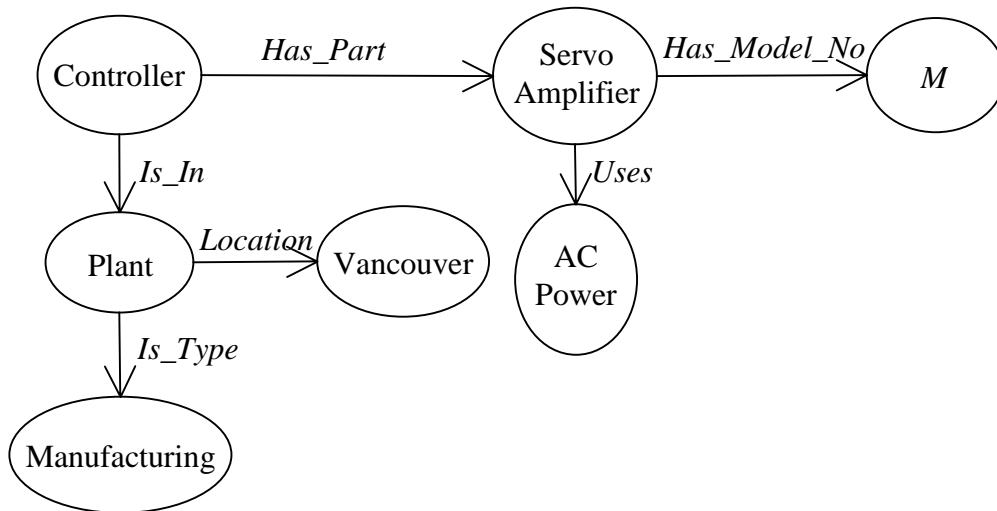


Figure 1.11. An example of a semantic network.

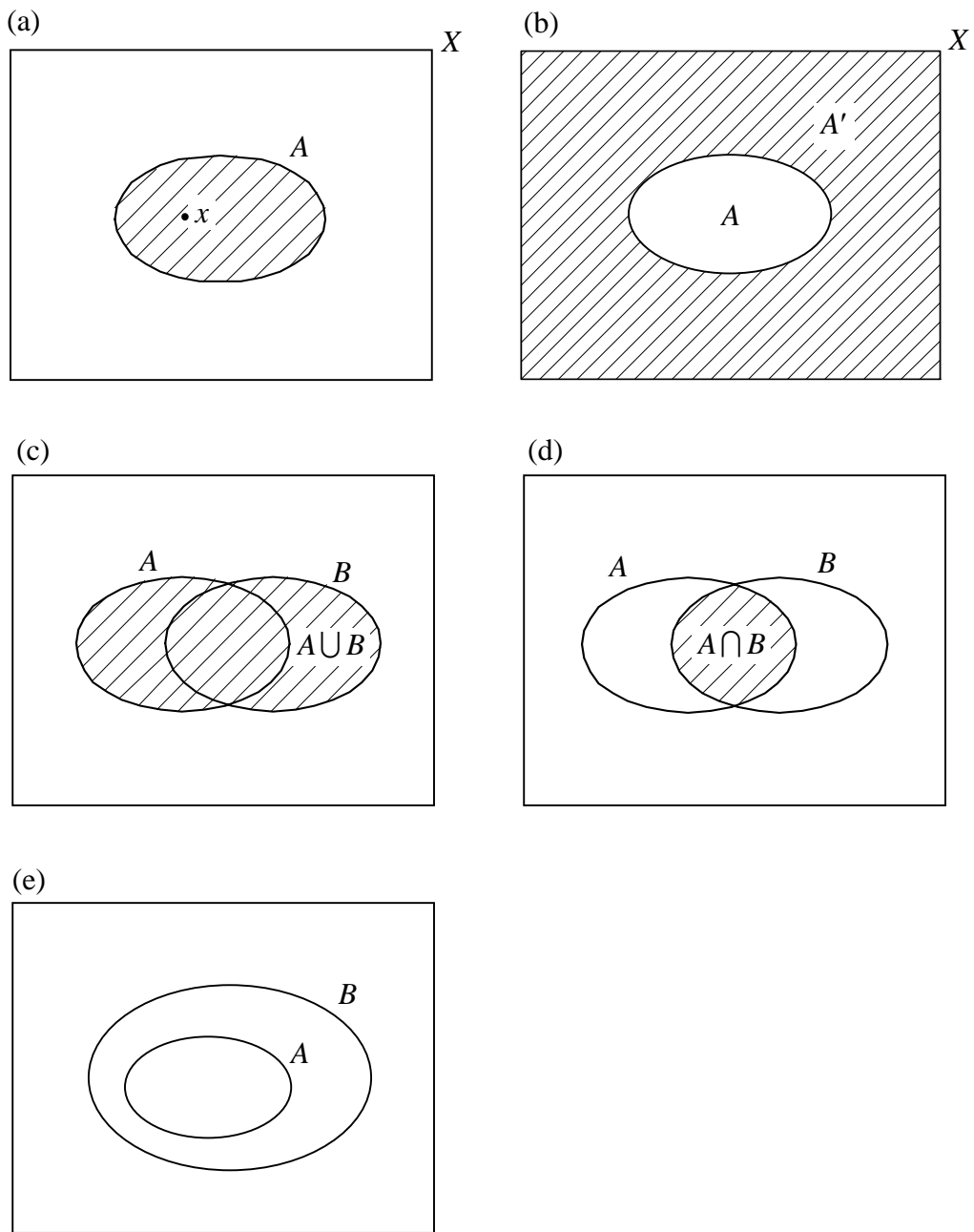


Figure 1.12. Some concepts of crisp sets:
 (a) Membership, (b) Complement, (c) Union,
 (d) Intersection, (e) Subset (proper).

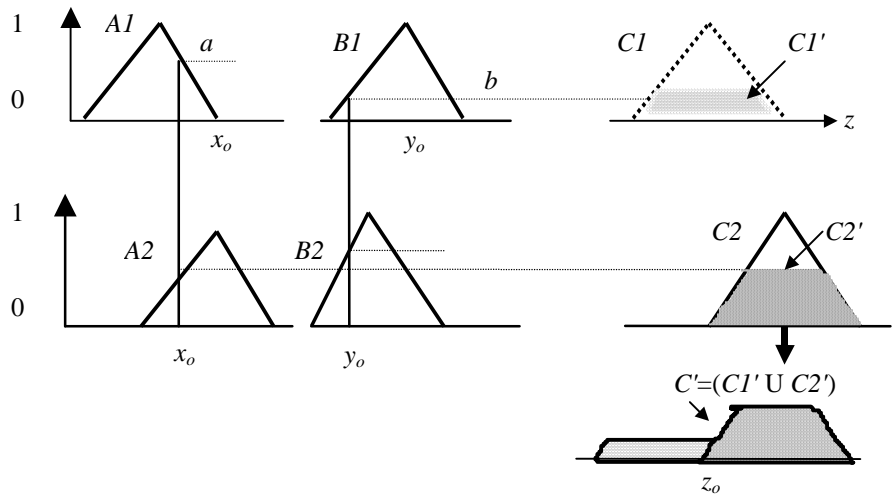


Figure 1.13. An illustration of fuzzy decision making.

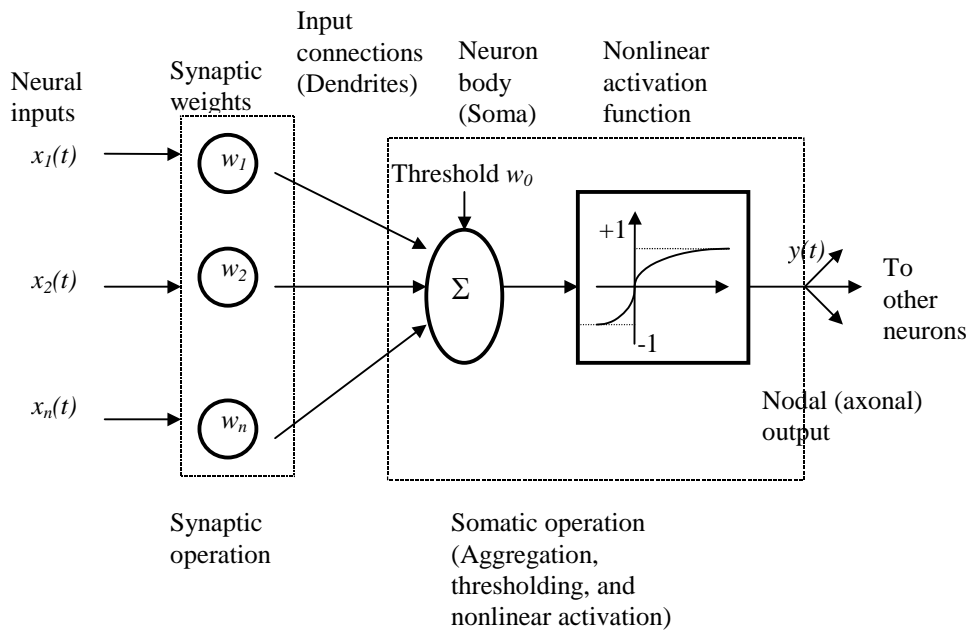


Figure 1.14. The operations at a node of a neural network.

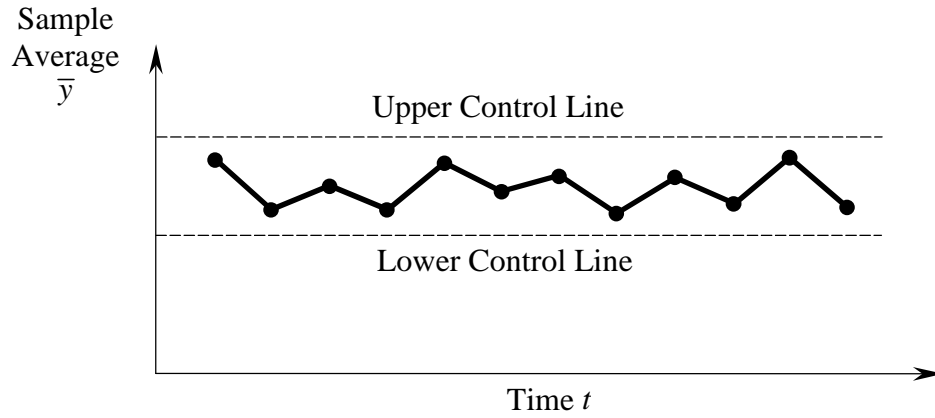


Figure P1.8. A control chart.

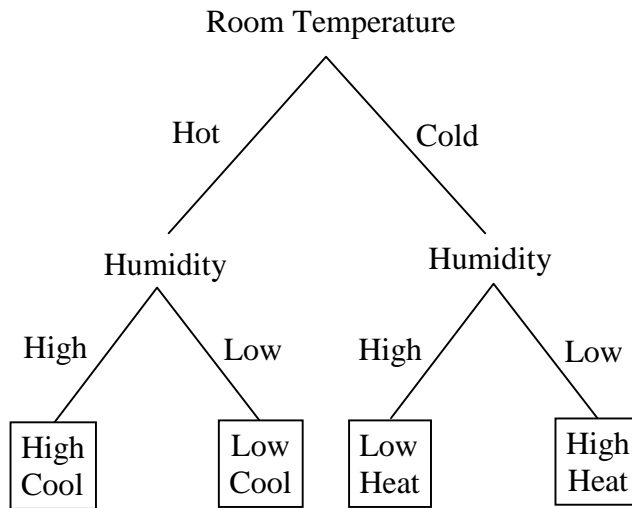


Figure P1.13. The decision-tree of a climate control system.