Artificial Intelligence

Artificial Intelligence has many sub - disciplines namely Logic, Diagnosis, Temporal Rreasoning, RealTime Reasoning, Machine Learning, Search, Meta Learning, Qualitative Science and Cognitive Science. Speciality areas out of the above sub - disciplines of Artificial Intelligence are Vision, Robotics, User Modelling, Ubiquous Computing, etc.

Apart from the basic Artificial Intelligence techniques which use Reason, Knowledge Representation, Learning Capability to achieve goals, there is also a field called "Soft Computing" applied in computer science, which is characterized by the use of inexact solutions to computationally hard tasks such as the solution of NP-complete problems.

While Arcee Automations focuses on Vision and Robotics which deals with Machine Learning, we also specialise in the area called Soft Computing. Soft Computing differs from conventional (hard) computing in that, unlike hard computing, it is tolerant of imprecision, uncertainty, partial truth, and approximation. In effect, the role model for soft computing is the human mind.

Components of soft computing include: a. Neural Networks b. Fuzzy Logic c. Evolutionary Computation including Evolutionary algorithms d. Bayesian Networks

Unlike hard computing schemes, which strive for exactness and full truth, soft computing techniques exploit the given tolerance of imprecision, partial truth, and uncertainty for a particular problem.

We use MatLab® based tools and develop techniques/solutions on soft computing that can mimic the human mind and provide solutions to the NP complex problems.

Moreover, we specialise in a technique called ANFIS . Adaptive Neuro Fuzzy Inference System (ANFIS) which is a kind of Neural Network that is based on Takagi–Sugeno Fuzzy Inference System. Since it integrates both neural networks and fuzzy logic principles, it has the potential to capture the benefits of both in a single framework. Its inference system corresponds to a set of fuzzy If –Then rules that have learning capability to approximate nonlinear functions. Hence, ANFIS is considered to be a universal approximator.