

## **“ENGINEERING HYBRID SOFT COMPUTING SYSTEMS”**

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### Abstract:

The emerging need for hybrid soft computing systems is currently motivating important research and development work. It is well known that the intelligent systems, which can provide human like expertise such as domain knowledge, uncertain reasoning, and adaptation to a noisy and time varying environment, are important in tackling practical computing problems. In contrast with conventional artificial intelligence techniques which only deal with precision, certainty and rigor the guiding principle of hybrid soft computing systems is to exploit the tolerance for imprecision, uncertainty, low solution cost, robustness, partial truth to achieve tractability, and better rapport with reality [5].

The integration of different learning and adaptation techniques, to overcome individual limitations and achieve synergetic effects through hybridization or fusion of these techniques, has in recent years contributed to a large number of new intelligent system designs.

These ideas have led to the emergence of several different kinds of intelligent system architectures [1][2]. This talk presents some of the generic hybrid architectures which have evolved over the past decade in the hybrid soft computing community.

We further attempt to discuss the importance of these architectures with an emphasis on the best practices for selection and combination of intelligent methods.

Two application examples will be presented to demonstrate how such systems could be used for solving real world problems [3][4].