

Computer Science Colloquium

Genetic Algorithms

*Bear Hall Room 102,
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3:00pm*

*Dr. Sridhar Narayan
narayans@uncwil.edu*

Genetic algorithms are probabilistic search techniques inspired by evolutionary principles. The search process typically begins with the random generation of an initial population of solutions of varying fitness. In a manner resembling biological evolution, subsequent solutions to the problem are generated from members of the initial population using a form of natural selection together with genetics-inspired operators like crossover, inversion, and mutation. Over many generations the average fitness of the population increases, leading to the discovery of high-quality solutions. Genetic algorithms have been used in diverse areas such as automatic programming, signal processing, and protein sequencing. This talk presents an overview of genetic algorithms and examines the application of evolutionary techniques to the problem of supervised learning in artificial neural networks.