

Department of Computer Science
Thomas J. Watson School of Engineering and Applied Science

DAVID SCHAFFER

Invited Lecture

Tuesday, April 25, 2006

SW 313

10:05 – 11:30 am

“Bioinformatics for Molecular Diagnostics”

ABSTRACT

After a brief introduction to the challenges of molecular diagnostics and the associated pattern discovery, I will describe a novel genetic algorithm for this task. I will briefly touch on some of our observations about how different classifiers interact with genetic search. The main conclusion of our initial experiments is that the deep challenge is not pattern discovery per se, but how to overcome the limits of small clinical sample sets.

Biography

David Schaffer is a Research Fellow at Philips Research where for the last 20 years he has conducted research on theory and applications of Evolutionary Computation (EC). For 10 of those years, he led the commercially successful development of EC-based optimizers for Philips SMD assembly equipment. He has also been involved in the development of prototype systems that automatically learn TV viewers' preferences. Since 2002 he has been focused on applications in healthcare information technology, primarily the discovery of diagnostic patterns in biomolecular data.

He is the author of some five dozen publications, and holds 21 US patents. He was one of the founding members of the International Society for Genetic Algorithms (now ACM-SIGEVO) and serves on the advisory board of the Evolutionary Computation Journal published by MIT Press.