Biocomputational Puzzles: Data, Algorithms, and Visualization

Dennis Shasha
New York University
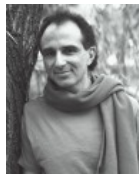New York, USA
shasha@cs.nyu.edu

ABSTRACT

I solve puzzles for a living. Over the last few years, I've tried to make this activity useful to biologists and scientists in general. This talk will give an overview of some of those attempts, involving the use of combinatorial design to reduce the size of experimental search spaces, visualization of experimental data, and biochemical calculations using DNA. I will attempt to convey the ideas and show the tools rather than focus on mathematical details.

ABOUT THE AUTHOR

Dennis Shasha (New York University, USA). Dennis Shasha is a professor of computer science at the Courant Institute of New York University where he works with biologists on pattern discovery for microarrays, combinatorial design, and network inference; with physicists, musicians, and financial people on algorithms for time series; and on database applications in untrusted environments.

Other areas of interest include database tuning as well as tree and graph matching. Because he likes to type, he has written six books of puzzles, a biography about great computer scientists, and technical books about database tuning, biological pattern recognition and time series. He has co-authored fifty journal papers, sixty conference papers, and eleven patents. For fun, he writes the puzzle column for Scientific American.