

Computer Science Department, Northwestern University
Presents

"Data preservation in self-supervising networks"

Dr. Brian Cooper
Stanford University

--- 12:30 pm --- Monday, February 3, 2003
CS Main Classroom (rm. 381), 1890 Maple Avenue

Abstract:

An ever-increasing amount of information is being stored digitally, and people are becoming more and more dependent on it. However, very little is understood about how to preserve digital information for long time periods. Media failures, natural disasters and bankruptcy all conspire to cause information loss over decades or centuries. I will talk about distributed digital archive I have developed to address this problem. This system is based on a community of archives that trade data under the principle of "I'll preserve your data if you preserve mine." These trades result in an archive network that self-organizes into a reliable system, self-tunes to improve efficiency, and self-heals after a failure. I'll discuss the architecture of the system, and techniques for making trades to achieve the highest reliability. I'll also sketch work I have done on information discovery through peer-to-peer searches of the archive network.