# Intelligent Agent Technology

A problem computer users face is that as applications become more powerful, they also become more complex. And while users cope with the complexity, they must still deal with the mundane aspects of computer usage, such as backing up, repetitive file management and arranging windows. Charles River Analytics, Inc., Cambridge, Massachusetts has brought to the market an autonomous intelligent software product that relieves users of many routine housekeeping and preparation tasks.

Called Open Sesame!, the software "learns" a user's behavior and offers automation and coaching suggestions to the user; it reduces the number of mouse and keyboard operations required to accomplish a given job because it automatically carries out actions that were previously done manually. The product's developers credit NASA funding support and technology background with "critical" assistance in developing Open Sesame! and other company software components.

Available for Apple Macintosh computers, Open Sesame! is based on Charles River Analytics' hybrid neural network/expert system technology. It compares high level events (like opening a folder or quitting an application), generated by the user's mouse clicks and key strokes, to information stored in its neural learning module and its inference engine. The neural learning module looks for repetitive patterns that have not been automated; when it finds one, it creates an observation and, on approval, automates the task it observed.

Founded in 1983, Charles River Analytics has both personnel expertise and technical roots in NASA technology. Prior to starting the company, president Dr. Alper Caglayan had worked five years at Langley Research Center on digital flight systems R&D. Dr. Greg Zacharias, vice president, served at Johnson Space Center, where he worked on the preliminary design of the Space Shuttle Orbiter's reentry autopilot.

In addition to this NASA-acquired knowledge base, much of the company's computational intelligence technology was developed under NASA Small Business Innovation Research (SBIR) grants. A Langley SBIR project on neural guidance research generated software components later incorporated in Open Sesame! A Johnson-sponsored SBIR contact on hybrid neural network expert systems environment was instrumental in development of another Charles River product, a neural expert software system known as NeuX.
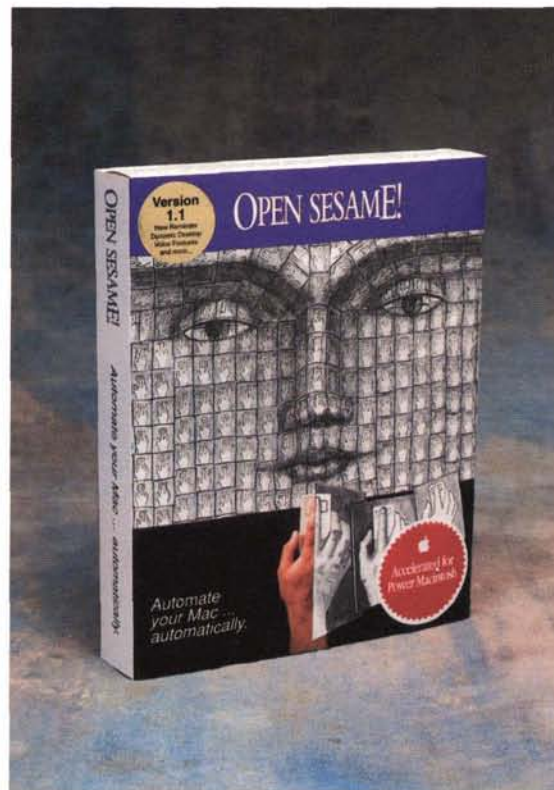
Open Sesame! software reduces computer-use complexity by relieving users of many routine tasks.