

Proceedings

The Second International Conference on

ARTIFICIAL INTELLIGENCE APPLICATIONS ON WALL STREET

TACTICAL AND STRATEGIC COMPUTING TECHNOLOGIES

EDITOR
Roy S. Freedman

April 19-22, 1993
New York City

Sponsored by

International Association of Knowledge Engineers
Division of Management, Polytechnic University
Wall Street & Technology
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In Cooperation with

American Association for Artificial Intelligence (AAAI)
Association for Computing Machinery (ACM)
Society for the Management of AI Resources and Technology - Financial Services (SMART-FS)
AI Expert
European Coordinating Committee for Artificial Intelligence

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Dr. Roy S. Freedman, *Editor*

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Chairman's Introduction

The *Second International Conference on Artificial Intelligence Applications on Wall Street* is organized to continue the momentum from the first conference in 1991. Our goal is to provide a serious international forum where the newest applications of knowledge-based technologies for trading, asset allocation, and regulation can be discussed and evaluated.

Throughout the world from ancient times onward, wherever there was trade between peoples, there were always new ways to raise money for commercial endeavors, and new technologies developed to support these activities. The earliest Babylonian clay tablets are database records of loans, receipts, promissory notes, leases, mortgages, taxes, and checks. Of course, none of these financial activities would make any sense without a standard notion for time; the earliest applications of technology were in the development of calendars. They were based on large numbers of observations and had to be accurate. Calendars fixed holidays as well as interest rates: interest rates were computed for lunar (monthly) and solar (annual) periods. Penalties for inaccuracies were severe.

Computational skills were developed to assist in all these tasks, especially for deriving mortgage and interest rate tables. In ancient Babylonia, interest rates were unregulated; simple interest rates fluctuated between 5% to 20% per annum. A thousand years later, computation was aided by devices such as the abacus—the portable laptop computer of the day. Its use was not restricted to the upper classes, but was carried all over the world by traders who introduced its use across cultures.

All of these developments were not without regulation. Formulas for asset allocation were carefully monitored, especially in regard to inheritance laws. The ancient story of the individual who, when asked to name his reward from the king, simply requested a chessboard with one grain of wheat on the first square, two on the second, four on the third, and so on, illustrates the fact that the power of compounding was known in antiquity. In Rome, one of the oldest interest rate regulations (450 B.C.) fixed the interest rate to one twelfth of the capital; one thousand years later, new regulations forbade compound interest in what remained of the Roman Empire. Nearly fifteen hundred years later, despite the advances in technology, the debate concerning financial regulation continues.

This conference addresses the modern technological aspects of trading, asset allocation, and regulation, and is truly organized across continents and time zones. I want to acknowledge the help of the sponsoring organizations and cooperating societies; our paper session and panel session chairs, our invited speakers, and of course, our Program Committee. Special thanks to Dr. Gia-Shuh Jang for his help in coordinating the speakers. Another special thanks to Paula Ungureanu and Julie Walker of IAKE, and Pat White of Systemware Corporation, for their diligence and persistence in organizing this international event and quality Proceedings. At Inductive Solutions, I want to thank Marie Deluca for her help with the program, and Louise Parmegiani for her support through interesting and challenging times.

Roy S. Freedman, Ph.D.
Program Chairman — AI/WS-93
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