In pursuit of mind: The research of Allen Newell

John E. Laird
Paul S. Rosenbloom

DOI: https://doi.org/10.1609/aimag.v13i4.1019

Abstract

Allen Newell was one of the founders and truly great scientists of AI. His contributions included foundational concepts and ground-breaking systems. His career was defined by the pursuit of a single, fundamental issue: the nature of the human mind. This article traces his pursuit from his early work on search and list processing in systems such as the LOGIC THEORIST and the GENERAL PROBLEM SOLVER; through his work on problem spaces, human problem solving, and production systems; through his final work on unified theories of cognition and SOAR.
Allen Newell, (March 19, 1927 - July 19, 1992) was a American researcher in computer science and pioneer in the field of artificial intelligence and chess software [2] at the Carnegie Mellon University, Pittsburgh, Pennsylvania. In 1958, Allen Newell, Cliff Shaw, and Herbert Simon developed the chess program NSS [3]. It was written in a high-level language. Allen Newell and Herbert Simon were co-inventors of the alpha-beta algorithm, which was independently approximated or invented by John McCarthy, Arthur Samuel and Alexander Brudno [4]. Allen Newell and Herbert Simon received the Turing Award... In Pursuit of Mind: The Research of Allen Newell. AI Magazine, Vol. 13, No. 4. External Links. Allen Newell from Wikipedia. With Allen Newell, Simon developed a theory for the simulation of human problem. Nothing flies more in the face of the last 20 years of research than the assertion that practice is bad. All evidence, from the laboratory and from extensive case studies of professionals, indicates that real competence only comes with extensive practice... Made the idea easy to grasp: "objects (real or symbolic) in the environment of the decision-maker influence choice as much as the intrinsic information-processing capabilities of the decision-maker"; Explained "the principles of modeling complex systems, particularly the human information-processing system that we call the mind."