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[Tommy Trojan](#) the [USC](#) mascot ^[2]

USC CP, the [University of Southern California](#) chess program by [Albert Zobrist](#) and [Frederic Roy Carlson](#), assisted by chess master [Charles Kalme](#). It participated at two [ACM North American Computer Chess Championships](#), [ACM 1972](#) and [ACM 1973](#). The USC program uses a [scoring function](#) that gives credit for having certain patterns present at the board. At time of the ACM 1972, the program searched for about 45 different patterns. The program is structured so that additional patterns can be easily added by a chess player unfamiliar with the details of the program ^[1].

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The USC Chess Program

Abstract from *The USC chess program*, 1973 ^[3]

Much attention has been given recently to the "linguistic" approach to [pattern recognition](#). The basics ingredients of this approach are a set of primitive picture parts and a grammar whose rules compose the primitive parts into a class of pictures.

The basic idea of linguistic pattern recognition is to generalize

string grammars to two dimensions. This requires a generalization of "concatenation" to two dimensions. Several applications have resulted from the definition of simple picture grammars. This field should properly be called structural pattern recognition since its basic goal is to study the processing of the structure of pictures. From this viewpoint, one may ask whether simple grammars and the present concatenation schemes are adequate for the processing of complex scenes, or whether other approaches should be sought. These questions may be answered in the affirmative by considering the case of chess. The structure of a chessboard appears to be incredibly complex, yet humans seem to recognize familiar situations by means of structural organization of the board. Thus, chess seems to be an ideal paradigm case for complex structural pattern recognition. The USC chess program was produced from these studies. The remainder of this report will give a brief description of the chess program itself.

See also

- [Acronym](#)
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- [Old programs CHAOS and USC](#) by Eugene Piercy, [CCC](#), July 11, 2015

References

1. [^] [Monroe Newborn](#) (1975). *Computer Chess*. [Academic Press](#), New York, N.Y., Chapter VII. The Third United States Computer Chess Championship
2. [^] Trojan Shrine, also known as Tommy Trojan at the [University of Southern California](#), [image](#) by [Rg998](#), June 16, 2006, [CC BY-SA 3.0](#), [Wikimedia Commons](#), [Tommy Trojan from Wikipedia](#)
3. [^] [Albert L. Zobrist](#), [Fredric R. Carlson](#) (1973). [The USC chess program](#). Proceedings of the [ACM](#) annual conference, Atlanta, Georgia, United States, August 27-29, 1973

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