



**CALIFORNIA STATE SCIENCE FAIR  
2002 PROJECT SUMMARY**

<b>Name(s)</b> Chris W. Fletcher	<b>Project Number</b> <b>J1204</b>
<b>Project Title</b> <b>Artificial Intelligence in a Nutshell</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Natural Language Processing is the study of the interpretation and understanding of human speech. A successful project in this field would be able to consume simple or complex sentences, interpret, and then apply them in a productive way.</p> <p><b>Methods/Materials</b> The method used in which to construct this program was comparing known and used sentence structures (RTN) with example sentences, then programming the computer to compare the two. For this project, the programming language Scheme was used.</p> <p><b>Results</b> The purpose of the following program was to enable a computer to check an English sentence, of arbitrary length, and to determine whether it is grammatically correct.</p> <p><b>Conclusions/Discussion</b> At its current level of complexity, this program was able to recognize noun phrases (ornate noun), verb phrases, and complex sentences (fancy noun). From completing this project, the researcher learned a great deal about how to program in Scheme, along with advanced English grammar. Future research concerning Natural Language Processing could be to program a computer to recognize more complex sentence structures, and types of words.</p>	
<b>Summary Statement</b> This project is about how to program a computer to apply a human language in a productive or practical manner.	
<b>Help Received</b> mentor help coordinate paper; teacher helped learn programming language	