



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> Nimi Katragadda; Simi Katragadda	<b>Project Number</b> <b>S1212</b>
<b>Project Title</b> <b>Diagnosing Illness with a Statistically Significant Computer Program</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Several illnesses, ranging from the common cold to bronchitis, plague today's society; the increasing shortage of nurses further prevents the treatment of these illnesses. Because of this problem, the purpose of our science fair project is to create a user friendly computer program that effectively diagnoses the illness that the user suffers from based on symptoms that the user inputs into the program. Prescription treatments and home remedies are also provided. Our hypothesis is that our program will be accurate at least 60% of the time.</p> <p><b>Methods/Materials</b> We compiled a list of illnesses with their symptoms and treatments. Next, we created an algorithm to write the program. After writing the program, we made four different surveys, for four different illnesses. They directed the subjects to place a check next to the symptoms and treatments that they experienced. We placed these surveys in a physician's office so that the physician's patients could take them and mail them back to us with the addressed envelope with postage that we provided.</p> <p><b>Results</b> We received 22 surveys (of 110). To determine if our results validated our hypothesis, we conducted a T test. The null hypothesis was that the program was accurate 60% of the time. The alternative hypothesis was that the program was accurate more than 60% of the time. The test was significant to the .01 level; therefore, we rejected the null hypothesis and accepted the alternative hypothesis. There is strong evidence that the program is accurate more than 60% of the time.</p> <p><b>Conclusions/Discussion</b> We presented our program and the strong evidence of accuracy to physicians. We asked them their opinions.</p>	
<b>Summary Statement</b> To counteract the current nursing shortage we have created a computer program that diagnoses a user's illness and provides treatments.	
<b>Help Received</b> Dr. Hitesh Shah gave us advice about illnesses and provided his office as the location of our surveys.	