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Artificial Intelligence



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Research Statement

My research interests currently fall into two distinct areas. One is in the area of the application of constraint logic programming and the other is in the area of supply chain management.

I have been interested in the application of natural language processing methods to the improvement of system specifications in Software Engineering. Two students, one an undergraduate Rich Burns who did an honors thesis on the topic, and a graduate student Karteek Pulapaka have been working on a software package based on the RECOCASE project (<http://www.comp.mq.edu.au/richards/recocase/>.) The aim has been to provide a package that offers more diagnostic information on faulty use case sentences than in the original software.

In the area of Constraint logic programming I am interested in the problem of determining, up front, which labeling strategies to pursue. I have been using Codeine (<http://contraintes.inria.fr/langevin/codeine/>) to trace the effects of differing choices. To date I have identified a number of interesting examples that can be used to study the behavior. There are cases where random choices are consistently better and others where more systematic ones are better.

My supply chain modeling work is a joint research with Dr. Roger Warburton of Boston University. The work is mathematical and we are investigating the bullwhip phenomenon