

## Christoph Bussler

---

**From:** dbworld-bounces@cs.wisc.edu on behalf of Hasan Jamil [jamil@cs.wayne.edu]  
**Sent:** Tuesday, May 25, 2010 3:00 PM  
**To:** dbworld@cs.wisc.edu  
**Subject:** [Dbworld] Software Release: IsoSearch Sub-graph Isomorphic GraphQuerying Tool

Integration Informatics Laboratory  
Wayne State University, USA  
<http://integra.cs.wayne.edu>  
-----

### Announcement

IsoSearch: Sub-graph Isomorphic Graph Querying System Release  
at <http://141.217.114.184/IsoSearch/>

We are pleased to announce the release of an XSB [1, 2] based sub-graph isomorphic query engine called IsoSearch [3]. The tool can be found at <http://141.217.114.184/IsoSearch/>. The engine is capable of computing all possible isomorphic subgraphs of a given node labelled data graph and a query graph completely logically. IsoSearch is capable of handling large graph sizes similar to human protein-protein interaction networks [4]. The size of the data and query graph is limited by the capacity of XSB. However, the number of maximum solutions is limited to 100 since we use XSB's findall feature to collect all solutions for a graphical visualization. The solutions are displayed as colored graphs for easy visualization.

The data and query graphs must be in the form of binary predicates called edge and query respectively. These two graphs can be uploaded as text files, or pasted in the interface. An example showing how to run this tool is available in the interface along with a user manual in the help link.

This is a trial release, and we welcome your suggestions and comments on this tool in our IsoSearch blog page. We are especially interested in reports of problems while running your query or any error in our computational procedure. Your suggestions will be used to improve our system.

Publications related to IsoSearch and other projects can be found at our Integration Informatics Lab home page at <http://integra.cs.wayne.edu>.

IsoSearch has been funded in part by National Science Foundation grants SEIII IIS 0612203 and MRI CNS 0521454.

### References:

- [1] Prasad Rao, Konstantinos F. Sagonas, Terrance Swift, David Scott Warren, Juliana Freire: XSB: A System for Efficiently Computing WFS. LPNMR 1997: 431-441.
- [2] Konstantinos F. Sagonas, Terrance Swift, David Scott Warren: XSB as an Efficient Deductive Database Engine. SIGMOD Conference 1994: 442-453.
- [3] Hasan Jamil, "A Novel Knowledge Representation Framework for Computing Sub-Graph Isomorphic Queries in Interaction Network Databases", 21st International Conference on Tools with Artificial Intelligence, Newark, United States of America,

November 2009.

- [4] Mohammad Shafkat Amin, Anupam Bhattacharjee, Hasan Jamil, "A Cytoscape based Integrative Framework for Efficient Sub-graph Isomorphic Protein-Protein Interaction Motif Lookup", ACM International Symposium on Applied Computing, Bioinformatics Track, Sierre, Switzerland, March 2010.

Note: A bibliographic search for logic based sub-graph isomorphism procedures turned up empty. Any reference to other existing logic based solutions will be appreciated.

---

Please do not post msgs that are not relevant to the database community at large. Go to [www.cs.wisc.edu/dbworld](http://www.cs.wisc.edu/dbworld) for guidelines and posting forms. To unsubscribe, go to <https://lists.cs.wisc.edu/mailman/listinfo/dbworld>