

Gregory Todd Williams

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Education

- 2007–Present *Rensselaer Polytechnic Institute* *Pursuing Ph.D. in Computer Science*
Pursuing a Ph.D. in Computer Science, specializing in scalable query answering on the Semantic Web.
- 2006–2007 *University of Maryland* *Ph.D. coursework in Computer Science*
Ph.D. coursework in Computer Science including Parallel Algorithms, Language-Based Techniques for Concurrent and Distributed Software, Biosequence Analysis, Databases, and Computational Linguistics.
- 2001–2003 *Wheaton College* *Magna cum laude, B.A. Computer Science with Honors, Philosophy Minor*
Relevant course-work: Structured Programming, Data Structures, Computer Graphics, Theory of Computation, Genomics, Graph Theory. Honors thesis: *An Autoscheduling Optimizer for Perl*.
- 1998–2000 *Santa Monica College*
Relevant course-work: C Programming, Assembly Language Programming, Java Programming, Linear Algebra, Discrete Mathematics, Calculus, Philosophy of Science, Japanese (Intermediate).

Experience

- 2006 *Shopzilla, Inc., Los Angeles, CA* *Software Engineer*
Designed and implemented a site taxonomy server, integrating an existing product taxonomy database with a new REST API for querying and updating an RDF-based data model using SKOS and OWL.
- 2005 *Shopzilla, Inc., Los Angeles, CA* *Software Engineer*
Redesigned and implemented a merchant statistics reporting tool with a focus on scalability, maintainability, and extensibility. Work involved generating, storing and executing complex queries across multiple Sybase ASE and IQ databases using Trasact-SQL and Perl.
- 2003–2004 *BizRate.com, Los Angeles, CA* *Software Engineer*
Implemented "related product" search feature, integrating with an existing object-oriented mod_perl front-end. Redesigned and implemented database abstraction, localization, business logic and presentation classes in Perl for use with consumer search site. Worked with CTO on development of new search technologies requiring scalability and efficiency.
- 2001–2003 *Wheaton College Genomics Research Group, Norton, MA* *Wheaton Research Fellow*
Implemented in C++ and Perl: database code allowing statistical analysis of DNA sequences across genomes; a search engine which correlates search results with existing published literature in PubMed; and a framework for researching motif distributions in targetted genomic regions.
- 2001–2003 *Wheaton College, Norton, MA* *Mars Fellow*
Researched surface reconstruction and supporting infrastructure. Designed and implemented an object-oriented, dynamic, surface reconstruction research environment in C++ utilizing OpenGL. Responsible for coordinating the work of two other programmers to produce the final system.
- 1996–2001 *Cnation Inc., Los Angeles, CA* *Senior Software Engineer*
Acted as a project leader for software development projects and was responsible for managing other developers. Designed and implemented a large, open source, mod_perl based web application framework, "BingoX", and its associated database abstraction and parsing classes, "Data::Query" and "Apache::XPP". Designed and implemented large database driven mod_perl applications for clients.

Published

- 2010 Sibel Adali, Robert Escriva, Mark K. Goldberg, Mykola Hayvanovych, Malik Magdon-Ismael, Boleslaw K. Szymanski, William A. Wallace and Gregory T. Williams. (2010). Measuring Behavioral Trust in Social Networks. *Proceedings of IEEE International Conference on Intelligence and Security Informatics (ISI 2010)*.
- 2009 Gregory Todd Williams, Jesse Weaver, Medha Atre and James A. Hendler. (2009). Scalable Reduction of Large Datasets to Interesting Subsets. *Proceedings of the 8th International Semantic Web Conference (Billion Triples Challenge), Chantilly, Virginia, October 27 2009*.
- Jesse Weaver and Gregory Todd Williams. (2009). Scalable RDF Query Processing on Clusters and Supercomputers. *Proceedings of the 5th International Workshop on Scalable Semantic Web Knowledge Base Systems (SSWS), Chantilly, Virginia, October 26 2009*.
- 2008 Gregory Todd Williams. (2008). Supporting Identity Reasoning in SPARQL Using Bloom Filters. *Proceedings of Workshop on Advancing Reasoning on the Web, Tenerife, Spain, June 2 2008*, online <http://ftp.informatik.rwth-aachen.de/Publications/CEUR-WS/Vol-350/paper8.pdf>.
- 2007 Gregory Todd Williams. (2007). Extensible SPARQL Functions With Embedded Javascript. *Proceedings of 3rd Workshop SFSW'07, Innsbruck, Austria, June 6th 2007*, online <http://www.dfki.uni-kl.de/~grimnes/2007/06/SFSW07Papers/11.pdf>.
- 2005 Gregory Todd Williams. (2005). MT-Redland: An RDF Storage Backend for Movable Type. *Proceedings of 1st Workshop SFSW'05, Hersonissos, Greece, May 30 2005*, CEUR Workshop Proceedings, ISSN 1613-0073, online [CEUR-WS.org/Vol-135/paper5.pdf](http://www.ceaurobor.com/Vol-135/paper5.pdf).
- 2004 Betsey D. Dyer, Mark D. LeBlanc, Stephen Benz, Peter Cahalan, Brian Donorfio, Patrick Sagui, Adam Villa and Gregory Williams (2004). A DNA motif lexicon: cataloguing and annotating sequences. *In Silico Biology* 4,0039(2004).
- 2003 Gousie, M. B. Williams, G., Agnitti, T., and Doolittle, N. (2003). CompSurf: An Environment for Exploring Surface Reconstruction Methods on a Grid. *Computers & Geosciences* 29,9(2003), 1165-1173.
- 2002 Williams, G., Doolittle, N. and Agnitti, T. (2002). A surface reconstruction research environment. *The Journal of Computing in Small Colleges*,v17(6), 301–302. Presented at the 2002 Northeastern Conference on Computing in Small Colleges, Worcester, MA, April 2002.
- LeBlanc, M., Baron, M., Christoforou, A., Doolittle, N., Kimball, M., Villa, A., Williams, G. and Dyer, B. (2002). The DNA Motif Lexicon – cataloguing and annotating genomes. In *Proceedings of the 14th International Genome Sequencing and Analysis Conference, October 2 - 5, 2002, Boston, MA*, p.92.

Projects

Designed and implemented the **RDF::Query** RDF query engine for Perl including support for the SPARQL and RDQL query languages. RDF::Query was listed as one of the initial 14 implementations of SPARQL as the query language was published as a W3C Recommendation in 2008.