

EVREN SIRIN

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RESEARCH INTERESTS

Web Services

- Automated Composition of Web Services
- Information Gathering using Web Services
- Applying AI planning techniques to composition

Semantic Web

- Automated Reasoning for Web Ontologies
- Description Logic Reasoning
- Optimizations for Tableaux Algorithms

EDUCATION

2000– Present University of Maryland College Park, MD
■ PhD candidate in Computer Science

2004 University of Maryland College Park, MD
■ M.S., Computer Science

1999 Bosphorous University Istanbul, TURKEY
■ B.S., Computer Science.
■ Graduated with distinction, 4th in rank out of 60.

EXPERIENCE

2002– Present University of Maryland College Park, MD

Research Assistant

- Working at the Mindswap research lab under the supervision of James Hendler

Summer 2003 Fujitsu Labs of America College Park, MD

Internship

- Continuation of the work on the STEER project and developing modules for the Fujitsu Task Computing Environment

Winter 2003 Fujitsu Labs of America College Park, MD

Internship

- Worked on the STEER project under the supervision of Dr. Ryusuke Masuoka. Developed software modules for Web Service matchmaking in pervasive environments.

2000-2002 University of Maryland College Park, MD

Teaching Assistant

- Teaching and grading for courses Computer Science I (2 semesters), Computer and Network Security, Programming Robots

1999-2000 Bosphorous Univ., Registrar's Office Istanbul, TURKEY

System Administrator

- Developed software using genetic algorithms for automated timetabling of the classes, exams and rooms of the university.
- Maintained the online registration system.

1997-2000 Bosphorous Univ., Computer Center Istanbul, TURKEY

Webmaster

- Redesigned and implemented the university website
- Developed database applications and dynamic pages for various projects.

ACTIVITIES

Member of the OWL-S Coalition

- Working on the development of OWL-S ontologies, a set of ontologies aimed to automate the discovery, matchmaking and composition of Web Services

Co-chair for Semantic Web Services Demo Track

- Organizing the demo track for Developer's Day at WWW2005

Program Committee Memberships

- AAAI Conference (AAAI 2006)
- AAAI Fall Symposium on Agents and the Semantic Web (2005)
- Web Service Semantics Workshop at the 14th International World Wide Web Conference (WWW 2005)
- Semantic Web Services Workshop at The Third International Semantic Web Conference (ISWC 2004)

SOFTWARE PROJECTS

PELLET

- Implemented an OWL-DL reasoner based on the tableaux algorithms developed for expressive Description Logics. Pellet is the first reasoner that covers the full expressivity of OWL-DL and includes novel optimizations for reasoning with nominals.

OWL-S API

- Developed a Java API for programmatic access to read, execute and write OWL-S Web Service descriptions. OWL-S API supports precondition evaluation, execution for all the OWL-S control constructs and different groundings for WSDL, UPnP and Java.

SWOOP

- Working as a part-time developer on the hypermedia inspired ontology engineering environment SWOOP

WEB SERVICE COMPOSER

- Implemented a prototype that guides users in the dynamic composition of Web Services that are described in DAML-S and grounded in WSDL

ONTOLINK

- Worked on OntoLink, a knowledge integration tool to specify semantic and syntactic mappings/transformations between concepts defined in different ontologies and schemas

PUBLICATIONS

JOURNAL PUBLICATIONS

- Evren Sirin, Bijan Parsia, Bernardo Cuenca Grau, Aditya Kalyanpur, and Yarden Katz. Pellet: A Practical OWL-DL reasoner. *Submitted for Publication to Journal of Web Semantics*, 2006.
- David Martin, Mark Burstein, Drew McDermott, Sheila McIlraith, Massimo Paolucci, Katia Sycara, Deborah McGuinness, Evren Sirin, and Naveen Srinivasan. Bringing semantics to web services with OWL-S. *World Wide Web Journal Special Issue on Web Services: Theory and Practice*, 2006. To Appear.
- Bernardo Cuenca Grau, Bijan Parsia, and Evren Sirin. Combining OWL ontologies using E-connections. *Journal of Web Semantics*, 4(1), 2005.
- Aditya Kalyanpur, Bijan Parsia, Evren Sirin, and James Hendler. Debugging unsatisfiable classes in OWL ontologies. In *Journal of Web Semantics - Special Issue of the Semantic Web Track of WWW2005*, 3(4), 2005.
- Ugur Kuter, Evren Sirin, Bijan Parsia, Dana Nau, and James Hendler. Information gathering during planning for web service composition. *Journal of Web Semantics*, 3(2), 2005.
- Evren Sirin, Bijan Parsia, Dan Wu, James Hendler, and Dana Nau. HTN planning for web service composition using SHOP2. *Journal of Web Semantics*, 1(4):377-396, 2004.
- Evren Sirin, Bijan Parsia, and James Hendler. Filtering and Selecting semantic web services with interactive composition techniques. *IEEE Intelligent Systems*, 19(4):42-49, 2004.
- Ryusuke Masuoka, Yannis Labrou, Bijan Parsia, and Evren Sirin. Ontology-enabled pervasive computing applications. *IEEE Intelligent Systems*, 18(10):68-72, 2003.

CONFERENCE PUBLICATIONS

- Evren Sirin, Bernardo Cuenca Grau, and Bijan Parsia. From wine to water: Optimizing description logic reasoning for nominals. In *International Conference on the Principles of Knowledge Representation and Reasoning (KR-2006)*, 2006. To Appear
- Bernardo Cuenca Grau, Bijan Parsia, Evren Sirin and Aditya Kalyanpur. Modularity and Web Ontologies. In *International Conference on the Principles of Knowledge Representation and Reasoning (KR-2006)*, 2006. To Appear
- Takashi Hattori, Kaoru Hiramatsu, Takeshi Okadome, Bijan Parsia, and Evren Sirin. Ichigen-san: An ontology-based information retrieval system. In *Frontiers of WWW Research and Development - 8th Asia-Pacific Web Conference (APWeb 2006)*, Harbin, China, 2006.
- Bijan Parsia, Evren Sirin, and Aditya Kalyanpur. Debugging OWL ontologies. In *The 14th International World Wide Web Conference (WWW2005)*, Chiba, Japan, May 2005.

WORKSHOP
PUBLICATIONS

- Ugur Kuter, Evren Sirin, Dana Nau, Bijan Parsia, and James Hendler. Information gathering during planning for web service composition. In *Proceedings of the Third International Semantic Web Conference (ISWC2004)*, Hiroshima, Japan, November 2004.
- Bernardo Cuenca Grau, Bijan Parsia, and Evren Sirin. Working with multiple ontologies on the semantic web. In *Proceedings of the Third International Semantic Web Conference (ISWC2004). Volume 3298 Lecture Notes in Computer Science*, 2004.
- Dan Wu, Bijan Parsia, Evren Sirin, James Hendler, and Dana Nau. Automating DAML-S web services composition using SHOP2. In *Proceedings of 2nd International Semantic Web Conference (ISWC2003)*, Sanibel Island, Florida, October 2003.
- Evren Sirin, Bijan Parsia, and James Hendler. Template-based composition of semantic web services. In *AAAI Fall Symposium on Agents and the Semantic Web*, Virginia, USA, 2005.
- Bernardo Cuenca Grau, Bijan Parsia, Evren Sirin, and Aditya Kalyanpur. Automatic partitioning of OWL ontologies using e-connections. In *International Workshop on Description Logics (DL 2005)*, 2005.
- Aditya Kalyanpur, Bijan Parsia, and Evren Sirin. Black box techniques for debugging unsatisfiable concepts. In *International Workshop on Description Logics (DL 2005)*, 2005.
- Bijan Parsia, Evren Sirin, and James Hendler. The owl-s experience. *W3C Frameworks for Semantics in Web Services*, 2005
- Evren Sirin and Bijan Parsia. Planning for semantic web services. In *Semantic Web Services Workshop at 3rd International Semantic Web Conference (ISWC2004)*, 2004.
- Ugur Kuter, Evren Sirin, Dana Nau, Bijan Parsia, and James Hendler. Information gathering during planning for web service composition. In *Workshop on Planning and Scheduling for Web and Grid Services at ICAPS04*, Whistler, Canada, 2004.
- Evren Sirin, Bijan Parsia, and James Hendler. Composition-driven filtering and selection of semantic web services. In *AAAI Spring Symposium on Semantic Web Services*, 2004.
- Dan Wu, Evren Sirin, Bijan Parsia, James Hendler, and Dana Nau. Automatic web services composition using SHOP2. In *Proceedings of Planning for Web Services Workshop in ICAPS 2003*, Italy, June 2003.
- Evren Sirin, James Hendler, and Bijan Parsia. Semi-automatic composition of web services using semantic descriptions. In *Web Services: Modeling, Architecture and Infrastructure workshop in ICEIS 2003*, Angers, France, April 2003.
- Evren Sirin and Bijan Parsia. Task Selection of OWL-S Services During HTN Planning. Poster, In *Fourth International Semantic Web Conference (ISWC2005)*, Galway, Ireland, November 2005.
- Bernardo Cuenca Grau, Bijan Parsia, Evren Sirin, Aditya Kalyanpur. Modularizing OWL Ontologies. Poster, In *Fourth International Semantic Web Conference (ISWC2005)*, Galway, Ireland, November 2005.
- Aditya Kalyanpur, Bijan Parsia, Evren Sirin, Bernardo Cuenca Grau, James Hendler. Swoop: A Web Ontology Engineering Framework.

POSTERS,
POSITION PAPERS
& TECHNICAL
REPORTS

Poster, In *Fourth International Semantic Web Conference (ISWC2005)*, Galway, Ireland, November 2005.

- Aditya Kalyanpur, Bijan Parsia, Evren Sirin. Black Box Debugging of Unsatisfiable Classes. Poster, In *Fourth International Semantic Web Conference (ISWC2005)*, Galway, Ireland, November 2005.
- Bernardo Cuenca Grau, Bijan Parsia, and Evren Sirin. Tableau algorithms for e-connections of description logics. Technical Report 2004-72, University of Maryland Institute for Advanced Computer Studies (UMIACS), November 2004.
- Evren Sirin and Bijan Parsia. The OWL-S Java API. Poster, In *Third International Semantic Web Conference (ISWC2004)*, Hiroshima, Japan, 2004.
- Bijan Parsia and Evren Sirin. Pellet: An OWL DL Reasoner. Poster, In *Third International Semantic Web Conference (ISWC2004)*, Hiroshima, Japan, 2004.
- Aditya Kalyanpur, Evren Sirin, Bijan Parsia, and James Hendler. Hypermedia inspired ontology engineering environment: Swoop. Poster, In *Third International Semantic Web Conference (ISWC2004)*, Hiroshima, Japan, 2004.
- Evren Sirin and Bijan Parsia. Pellet: An OWL DL Reasoner. Position Paper, In *2004 International Workshop on Description Logics (DL2004)*, Whistler, Canada, 2004.
- Dan Wu, Evren Sirin, James Hendler, Dana Nau and Bijan Parsia. Automatic Web Services Composition Using SHOP2. Poster, In *The Twelfth International World Wide Web Conference (WWW 2003)*, Budapest, Hungary, May 2003.
- Evren Sirin, James Hendler and Bijan Parsia. Interactive Composition of Semantic Web Services. Poster, In *The Twelfth International World Wide Web Conference (WWW 2003)*, Budapest, Hungary, May 2003.

RELATED COURSEWORK

AI on the Web, Software Agents, Computer & Network Security, Advanced Computer & Network Security, Parallel Algorithms, Randomized Algorithms, Information Visualization, Scientific Computing

SKILLS

Java, C/C++, Matlab, ASP, Prolog, SQL, Visual Basic, Lisp, Java Script.

MISCELLANEAUS

Citizenship: Turkey Visa :F-1

REFERENCES

Available upon request