

Andrew E. Shilliday

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Education

Ph.D. Candidate in Computer Science, August 2004-Present
Rensselaer Polytechnic Institute, Troy, NY

B.S., Computer Science and Philosophy of Science, Summa Cum Laude, May 2004
Rensselaer Polytechnic Institute, Troy, NY

Research Experience

Graduate Research Assistant, 2004-Present

Department of Cognitive Science, Rensselaer Polytechnic Institute, Troy, NY

A primary developer for Slate, a multifaceted computational assistant for intelligence analysis facilitating structured evidence collection (through interoperability with other IC systems), evidence marshaling, hypothesis tracking, hypothesis generation, predication, and semi-automated report generation. (Supervised by S. Bringsjord) See <http://www.cogsci.rpi.edu/slate>.

Undergraduate Research Assistant, 2002-2004

Department of Cognitive Science, Rensselaer Polytechnic Institute Troy, NY

Initial development of the Slate system (described above). R&D in Existential Graphs, a visual First-Order logical system. Work included proving soundness and completeness results, implementing methods automated theorem proving, and invention of the Pegasus system. (Supervised by B. van Heuveln)

Teaching Experience

**Department of Cognitive Science, Department of Computer Science,
Rensselaer Polytechnic Institute, Troy, NY**

Computability and Complexity	<i>Graduate Teaching Assistant</i>	Fall 2006
Introduction to Logic	<i>Co-lecturer</i>	Fall 2005
Computability and Logic	<i>Undergraduate Teaching Assistant</i>	Spring 2004
Introduction to Logic	<i>Undergraduate Teaching Assistant</i>	Fall 2003
Intermediate Logic	<i>Undergraduate Teaching Assistant</i>	Spring 2003
Computer Science 1	<i>Undergraduate Teaching Assistant</i>	Spring 2002
Introduction to Logic	<i>Undergraduate Teaching Assistant</i>	Fall 2002

Technical Skills

Programming Languages: Common Lisp, Scheme, C, C++, ML, HTML, DHTML, PHP, ASP, SQL, Basic, Java, Lex, Yacc, OpenGL.

Operating Systems: MacOS X, Microsoft Windows 95/98/ME/NT/2000/XP, Linux, Solaris, FreeBSD.

Strong proficiency in logic, formal methods, knowledge representation.

Familiarity with ontology languages such as (in order of expertise) IKL, Common Logic, OWL, KIF.

Good technical writing and grammar skills. Strong proficiency with the typesetting package L^AT_EX.

Scientific Software

S. Bringsjord, A. Shilliday, J. Taylor. *Slate*. System for Logic and Theorem Extraction; a logic-based application for assisting reasoners in the fields of Intelligence Analysis, Logic, Math, etc. <http://www.cogsci.rpi.edu/slate/>. 2003—present.

S. Bringsjord, M. Clark., A. Shilliday, J. Taylor, D. Werner. *Solomon*. A Next-Generation Q&A System. <http://www.cogsci.rpi.edu/solomon/>. 2006—present.

A. Shilliday. *Pegasus*. A system for visualizing proofs in Peirce's Existential Graph proof calculus. <http://www.cs.rpi.edu/~shilla/>. 2006—present.

Selected Publications

S. Bringsjord, A. Shilliday, J. Taylor, D. Werner, M. Clark, E. Charpentier, and A. Bringsjord. *Toward Logic-Based Cognitively Robust Synthetic Characters in Digital Environments*. Proceedings of the First Conference on Artificial General Intelligence. In the series of Frontiers in Artificial Intelligence and Applications. IOS Press. 2008

A. Shilliday, J. Taylor, S. Bringsjord. *Toward Automated Probability-Based Semantic Interoperability between Ontologies for the Intelligence Community*. In Proceedings of the Second International Ontology for the Intelligence Community Conference, CEUR-WS.org, November 2007.

J. Taylor, A. Shilliday, and S. Bringsjord. *Provability-based Semantic Interoperability via Translation Graphs*. In Advances in Conceptual Modeling - Foundations and Applications, ER 2007 Workshops, Lecture notes in Computer Science, Volume 4802. Springer 2007.

S. Bringsjord, K. Arkoudas, M. Clark, A. Shilliday, J. Taylor, B. Schimanski, and Y. Yang. *Reporting on Some Logic-Based Machine Reading Research*. In Proceedings of the 2007 AAAI Spring Symposium on Machine Reading, 2007.

Grants

“Toward Cognitively Robust Synthetic Characters” 7.1.2007—7.1.2008. \$50,000 Seed Grant, Office of Research at Rensselaer.

“AKRRIV” originally in the ARIVA program, now in A-SpaceX. Started 2005. Total award \$., . . . , . . . from DTO (now under IARPA). The funder requests that award amounts be kept nondisclosed.

“Poised-For Learning and the Mechanization Thereof (through MARMML).” 2004—2006. Total award \$600,000 from DARPA IPTO.

“The SAGE Environment in Support of Novel Intelligence from Massive Data (NIMD Program).” 2002—2005. Total award approximately \$., . . . , . . . from ARDA. The NSA requests that award amounts be kept nondisclosed.

Honors, Awards, Appointments

AAAI 2008 Fall Symposium on Automated Scientific Discovery, *Co-chair*.

Award for notable presentation given at SICoP, 2008.

Deans List, 2000-2004, Rensselaer Polytechnic Institute.

Upsilon Phi Epsilon, 2003, Rensselaer Polytechnic Institute.