

Jim Davies

Director, Science of Imagination Laboratory
Institute of Cognitive Science
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EDUCATION

- 2004 **Ph.D., Computer Science**
GEORGIA INSTITUTE OF TECHNOLOGY
Title: Visual Analogical Problem Solving
Advisors: Profs. Ashok K. Goel and Nancy J. Nersessian
Committee: Profs. Ronald W. Ferguson, Richard Catrambone
Certificate: Cognitive Science
- 1997 **M.S., Psychology**
GEORGIA INSTITUTE OF TECHNOLOGY
Title: Correlation and Consistent Contrast Biases Shown in Free Sort Categorization
Advisor: Prof. Dorrit O. Billman
Committee: Dr. Tony J. Simon, Prof. Timothy A. Salthouse
- 1993 **B.A., Philosophy**
STATE UNIVERSITY OF NEW YORK COLLEGE AT OSWEGO

PROFESSIONAL ACADEMIC EXPERIENCE

- Fall 2006- **Carleton University, Institute of Cognitive Science** Ottawa, Ontario
ASSISTANT PROFESSOR
- Fall 2004-2006 **Queen's University, School of Computing** Kingston, Ontario
POSTDOCTORAL FELLOW
Applied visual analogy techniques to bioinformatics
Supervisor: Prof. Janice Glasgow
- Fall 2001-2004 **Georgia Institute of Technology** Atlanta, GA
GRADUATE RESEARCH ASSISTANT - College of Computing
Studied learning and cognition in biomedical engineering laboratories using ethnographic
observation and interviews
Supervisors: Profs. Nancy J. Nersessian and Wendy C. Newstetter
- 1997-1998 **Georgia Institute of Technology** Atlanta, GA
GRADUATE RESEARCH ASSISTANT - EduTech Institute
Designed evaluative rubrics and coded student work in a Learning-by-Design curriculum
creation project
Supervisor: Prof. Janet L. Kolodner

1995-1996 **Georgia Institute of Technology** Atlanta, GA
 GRADUATE RESEARCH ASSISTANT - Department of Psychology
 Designed and ran experiments researching categorization biases
 Supervisor: Prof. Dorrit O. Billman

INDUSTRIAL AND GOVERNMENTAL RESEARCH EXPERIENCE

Summer 2000 **Mitsubishi Electric Research Labs** Cambridge, MA
 RESEARCH INTERN
 Designed a tutorial extension to the COLLAGEN collaborative agent software
 Supervisor: Dr. Charles Rich

Summer 1996 **Los Alamos National Laboratory** Los Alamos, NM
 GRADUATE RESEARCH ASSISTANT - Nonproliferation and International Security Division
 (NIS), Space Data Systems Group (NIS-3)
 System administrated and conducted neural network research
 Supervisor: Dr. Mark Galassi

1994-1995 **Los Alamos National Laboratory** Los Alamos, NM
 GRADUATE RESEARCH ASSISTANT - Computer Research and Applications Group (CIC-3)
 Conducted full-text information retrieval of physics documents using an *n-gram* method
 Supervisor: Dr. Timothy J. Thomas

RESEARCH THEME

Minds create imagined visual scenes by using a combination of pieced-together parts of visuospatial memory and explicitly-understood rules. My research focuses on how perceptual regularities predict imagined scenes.

PUBLICATIONS

FORMALLY REFEREED JOURNAL PAPERS

Davies, J., Goel, A. K., & Nersessian, N. J. (2009). A Computational Model of Visual Analogies in Design. *Cognitive Systems Research: Special Issue on Analogies*, 10, 204–215.

Davies, J., Goel, A. K. & Yaner, P. W. (2008). Proteus: Visuospatial analogy in problem solving. *Knowledge-Based Systems* 27(7), 636-654.

Davies, J., Goel, A. K. (2008). Visual re-representation in analogical reasoning. *The Open Artificial Intelligence Journal*, 2, 11–20.

Davies, J. & Goel, A. K. (2007). Transfer of Problem-Solving Strategy Using Covlan. *Journal of Visual Languages and Computing*: 18, 149–164.

Davies, J., Glasgow, J. & Kuo, T. (2006). Visio-spatial case-based reasoning: A case study in prediction of protein structure. *Computational Intelligence*, 22:3/4, 194–207.

Glasgow, J., Kuo, T. & **Davies, J.** (2006). Protein structure from contact maps: A case-based reasoning approach. *Information Science Frontiers*, Special Issue on Knowledge Discovery in High-Throughput Biological Domains. 8: 29–36.

Davies, J., Nersessian, N. J. & Goel, A. K. (2005). Visual models in analogical problem solving. *Foundations of Science*, Special Issue on Model-Based Reasoning: Visual, Analogical, Simulative. L. Magnani & N. J. Nersessian (Eds.) 10, 133-152.

Billman, D. O. & **Davies, J.** (2005). Consistent contrast and correlation in free sorting. *American Journal of Psychology*. 118(3) 353–383

Accepted For Publication

Gagné, J. & **Davies, J.** (in press). Visuo: A model of visuospatial instantiation of quantitative magnitudes. *Knowledge Engineering Review. Special Issue on Visual Reasoning*.

Under Revision or Review

Davies, J., & Matheson, D. (under review). The cognitive importance of testimony. Submitted to *Philosophical Quarterly*.

Davies, J. (under review). Task-based distributed cognition. Submitted to *Cognitive Science*.

FORMALLY REFEREED CONFERENCE AND WORKSHOP PAPERS

Davies, J. & Gagné, J. (2009). Analogical estimation of quantitative magnitudes. *New Frontiers of Analogy Research: Proceedings of Analogy 09*, 155–164, Sofia, Bulgaria.

Thomson, R. & **Davies, J.** (2009). Distance estimation as a process of generating ad-hoc metrical systems. *Proceedings of the Thirty-First Annual Conference of the Cognitive Science Society*. 2932–2937.

Davies, J. (2009). Experience-based Reasoning as the basis of a general artificial intelligence architecture. *International Joint Conference on Artificial Intelligence Workshop on Grand Challenges For Reasoning From Experiences*. 1-6 July 11, Pasadena, California.

Davies, J., Glasgow, J. & Kuo, T. (2007). Protein structure prediction with visuospatial analogy. In T. Barkowsky, M. Klnauff, G. Ligozat, & D. R. Montello (Eds.) *Lecture Notes in Artificial Intelligence 4387 Spatial Cognition V: Reasoning, Action, Interaction (LNAI 4387)* 127–139.

Davies, J., Goel, A. K. & Nersessian, N. J. (2005). Transfer of problem-solving strategy using the Cognitive Visual Language. *Proceedings of the International Workshop on Visual Languages and Computing (VLC05)*. 293–298.

Davies, J., Goel, A. K. & Nersessian, N. J. (2005). Transfer in visual case-based problem-solving. In H. Munoz-Avila & F. Ricci (Eds.) *Proceedings of the 6th International Conference on Case-Based Reasoning*. LNAI 3620. Springer-Verlag. Berlin Heidelberg. 163–176.

Davies, J., Goel, A. K. & Nersessian, N. J. (2005). A Cognitive Model of visual analogical problem-solving transfer. Poster paper in L. P. Kaelbling & A. Saffioti (Eds.) *Proceedings of the Nineteenth Annual International Joint Conference On Artificial Intelligence*. Professional Book Center, Denver, Colorado. 1556–1557.

Nersessian, N. J., Kurz-Milke, E., Newstetter, W. C. & **Davies, J.** (2004). Research laboratories as evolving distributed cognitive systems. In A. Markman & L. Barsalou (Eds.) *Proceedings of the Twenty-fifth Annual Conference of the Cognitive Science Society*. Erlbaum. Hillsdale, New Jersey. 857–862.

Davies, J. & Goel, A. K. (2003). Representation Issues in visual analogy. In R. Alterman & D. Kirsh (Eds.) *Proceedings of the Twenty-fifth Annual Conference of the Cognitive Science Society*. Erlbaum. Hillsdale, New Jersey. 300–305.

Davies, J., Goel, A. K., & Nersessian, N. J. (2003). Visual re-representation in creative analogies. In A. Cardoso & J. Gero (Eds.) *The Third Workshop on Creative Systems, International Joint Conference on Artificial Intelligence*. 1–12

Davies, J. & Goel, A. K. (2003). Visual case-based reasoning I: Transfer and adaptation. *Proceedings of the First Indian International Conference on Artificial Intelligence*. Hyderabad, India.

Nersessian, N. J., Newstetter, W. C., Kurz-Milcke, E. & **Davies, J.** (2002). A Mixed-method Approach to Studying Distributed Cognition in Evolving Environments. *Proceedings of the International Conference on Learning Sciences*. 307–314.

Davies, J., & Goel, A. K. (2001). Visual analogy in problem solving. *Proceedings of the Seventeenth International Joint Conference on Artificial Intelligence*. 377-382. Morgan Kaufmann publishers.

Davies, J. R., Lesh, N., Rich, C., Sidner, C. L., Gertner, A. S., & Rickel, J. (2001). Incorporating tutorial strategies into an intelligent assistant. *Proceedings of the 2001 International Conference on Intelligent User Interfaces*. 53–56.

Davies, J. R., Nersessian, N. J. & Goel, A. K. (2001). The role of visual analogy in scientific discovery. *Model-Based Reasoning: Scientific Discovery, Technological Innovation, Values*. Pavia, Italy.

Murdock, W. J., Simina, M., **Davies, J.**, & Shippey, G. (1998). Modeling invention by analogy in ACT-R. *Proceedings of the Twentieth Annual Conference of the Cognitive Science Society*, Madison, WI. 740–745.

Accepted For Publication

Bell, J. & **Davies, J.** (in press). Pixel graphs are better at representing large quantities of information than pie graphs. Submitted to *Theory and Application of Diagrams* (Diagrams-2010).

Smith, C., Van Bentham, K., Nuttall, J., Musca, J., MacDougall, K., Miller, X., Li, J., Fitzpatrick, J., Di Noia, N., Cybulskie, A., & **Davies, J.** (in press). Modeling English spatial preposition detectors. Submitted to *Theory and Application of Diagrams* (Diagrams-2010).

Under Revision or Review

Davies, J. (under review). Don't Waste Student Work: Using Classroom Assignments to Contribute to Wider Educational and Research Goals in Artificial Intelligence. Submitted to *First Symposium on Educational Advances in Artificial Intelligence* (EAAI-10).

Schoenherr, J. & **Davies, J.** (under review). Dissociating Perceptual Complexity Effects in Graphical Representations of Science. Submitted to *the Annual Conference of the Cognitive Science Society* (CogSci 2010).

Miller, X. & **Davies, J.** (under review). When you need to be nice to AIs: A functional definition of pain and suffering. Submitted to *the Annual Conference of the Cognitive Science Society* (CogSci 2010).

Schoenherr, J., Thomson, R. & **Davies, J.** (under review). Competition between Explanatory Schemata: Induced Biases for Mechanistic and Anthropomorphic Explanations. Submitted to *the Annual Conference of the Cognitive Science Society* (CogSci 2010).

Davies, J. & Yaner, P. W. (under review). Analogical mapping through visual abstraction. Submitted to *the Annual Conference of the Cognitive Science Society* (CogSci 2010).

Davies, J. & Gagné, J. (under review). Quantitative Estimation Using Semantic Similarity. Submitted to the *Conference of the American Association for Artificial Intelligence (AAAI-10)*.

FORMALLY REFEREED ABSTRACTS

Abelson, A., **Davies, J.**, Fraser, R., Kuo, T., Zuviria, E. & Glasgow, J. (2005). Protein structure from contact maps: An hierarchical approach. *Intelligent Systems for Molecular Biology (ISMB05)*.

Under Revision or Review

Davies, J. (under review). Programming detectors. Submitted to *First Symposium on Educational Advances in Artificial Intelligence: Model AI Assignments Section (EAAI-10)*.

Davies, J. (under review). Assigning Literature Reviews. Submitted to *First Symposium on Educational Advances in Artificial Intelligence: Model AI Assignments Section (EAAI-10)*.

Davies, J. (under review). Assigning podcast transcript writing. Submitted to *First Symposium on Educational Advances in Artificial Intelligence: Model AI Assignments Section (EAAI-10)*.

Davies, J. (under review). Writing summaries of AI papers. Submitted to *First Symposium on Educational Advances in Artificial Intelligence: Model AI Assignments Section (EAAI-10)*.

Davies, J. (under review). Creating AI flash cards. Submitted to *First Symposium on Educational Advances in Artificial Intelligence: Model AI Assignments Section (EAAI-10)*.

Davies, J. (under review). Writing wikibook chapters. Submitted to *First Symposium on Educational Advances in Artificial Intelligence: Model AI Assignments Section (EAAI-10)*.

REFEREED PRESENTATIONS

Burch, H., **Davies, J.**, & Schoenherr, J.R. (2009). The believability of anthropomorphic explanations. *2009 Annual Convention of the Canadian Psychological Association*, June 11 - 13, Montréal, Québec.

Schoenherr, J.R., **Davies, J.**, & Burch, H. (2009). Regularities in Human Visuospatial Imagination. *2009 Annual Convention of the Canadian Psychological Association*, June 11 - 13, Montréal, Québec.

Davies, J., Schoenherr, J.R., & Bell, J. (2009). Psychological Dimensions of Graphical Representation of Science. *2009 Annual Convention of the Canadian Psychological Association*, June 11 - 13, Montréal, Québec.

Schoenherr, J.R., **Davies, J.**, Burch, H., & Thomson, R. (2009). The believability of anthropomorphic explanations. Poster presentation at the 31st Annual Conference of the *Société Québécoise Pour La Recherche En Psychologie (SQRPO9)*. Ottawa, Ontario, March 22, p151.

Davies, J., Nersessian, N. J. & Goel, A. K. (2001). Visual analogy in scientific discovery. *Cognitive Studies of Science and Technology Workshop*, University of Virginia, March 24-27.

Galassi, M., **Davies, J.**, Theiler, J., Gough, B., Friedhorsky, R., Jungman, G., & Booth, M. (1999). The GNU scientific library. October 1999, *Open Source/Open Science Conference*, Brookhaven National Laboratory.

Billman, D., Davila, D. & **Davies, J.** (1996). Hierarchy and consistent contrast aid supervised and unsupervised concept learning. November 1996, Accepted talk, *Conference of the Psychonomics Society*.

BOOKS

Galassi, M., **Davies, J.**, Theiler, J., Gough, B., Jungman, G., Booth, M., & Rossi, F. (2001, 2003) *Gnu Scientific Library Reference Manual* First and Second Editions. Network Theory Ltd.

INVITED BOOK CHAPTERS

Davies, J. R. (2001). Ocelots are endangered South American wild cats. In J. Ohler (Ed.) *Future Courses: A Compendium of Thought About the Future of Technology and Education*. Technos Press.

Forthcoming

Goel, A. K. & **Davies, J.** (forthcoming 2010). Artificial Intelligence. in S. B. Kaufman and R. Sternberg (Eds.) *Cambridge Handbook of Intelligence* (3rd Edition).

REFEREED BOOK CHAPTERS

Nersessian, N. J., Kurz-Milcke, E. & **Davies, J.** (2005). Ubiquitous computing in science and engineering labs: A case study of a biomedical engineering lab. In G. Kouzelis, M. Pournari, M. Stoeppler and V. Tselfes, (Eds.), *Knowledge in the New Technologies*. Peter Lang: Berlin: 167–195.

INVITED TALKS

Davies, J. (2010). *A Vision for the Science of Imagination*. A. Louis Medin Modeling & Simulation Seminar Series and Cognitive Sciences Student Association at the University of Central Florida Visiting Scholar Series. Talk, panel discussion, student forum. February 16.

Davies, J., & Gagné, J. (2010). *Visuo: A Model of Visuospatial Instantiation of Quantitative Magnitudes*. National Research Council Canada Featured Speaker. January 22.

Davies, J. (2009). Don't waste student work: Using class assignments to further research and wider educational goals. Carleton University Educational Development Centre *Teaching Technology Roundtable*, September 25. Talk available online at <http://granny.carleton.ca/media/edc/jimdavies.mp4>

Schoenherr, J. R. & **Davies, J.** (2009). Complexity Effects in Judgments of Maps of Science. *The 12th International Conference on Scientometrics and Infometrics*. Rio de Janeiro, Brazil.

Davies, J. (2007). *A.I.: Past and Future*. Institute on Biotechnology and the Human Futures (IBHF) Conference, *The Spotless Mind? Policy, Ethics & the Future of Human Intelligence*, February 16. National Press Club Washington, D.C.

Davies, J. (2006). *The role of visual reasoning in analogical problem solving*. University of California at Merced. February 16.
Institute of Cognitive Science, Carleton University. February 13.

Davies, J. (2004). *Constructive adaptive visual analogy*.
School of Information Science & Learning Technologies, University of Missouri. May 19.
School of Computing, Queen's University. May 13.
University College Dublin. April 27.
University of Wisconsin at Green Bay. March 24.

GRANTS AND CONTRACTS

Davies, J. (2010). *Quanty Game*. Carleton University Foundry Program. \$5,000 CAD.

Davies, J. (2009). *Visuospatial Scene Generation*. National Science and Engineering Research Counsel (NSERC) Discovery Grant. \$95,000 CAD (\$19,000 per year for five years).

Davies, J. (2008). *Graphical Representations of Scientific Inter-relationships*. SciTech Strategies, Inc. grant. \$10,765 USD.

Davies, J. (2008). *Toward a Theory of Visual Instantiation*. Carleton University Internal Research Grant from the NSERC General Research Fund. \$7,000 CAD.

Davies, J. (2007). *Toward a Theory of Visual Instantiation*. Carleton University Internal Research Grant from the NSERC General Research Fund. \$5,000 CAD.

Ferres, L. & **Davies, J.** (2006). *Interaction between Linguistic & Visual Cues During Graph Comprehension Tasks*. Statistics Canada. \$18,000 CAD.

Davies, J., Essa, I., & Maple, T. The Primatch project: An interactive simulation of a signing orangutan. Seed Grant awarded 1998-1999. GVU, Georgia Institute of Technology.

OTHER PRESENTATIONS

Davies, J., Bicknell, J. (2010). *The Microtheory Model of Belief Quarantine*. Carleton University Cognitive Science Colloquium Series. January 21.

Davies, J., Matheson, D. (2010). *The Cognitive Importance of Testimony*. Carleton University Philosophy Department Public Lecture. January 15.

Davies, J. (2009). *Using Assignments for Web Educational Materials*. Part of the Carleton University Educational Development Centre "Classroom Strategies: One Cool Thing I'm Doing..." December 8.

Davies, J. (2009). *Don't waste student work: Using classroom assignments to further wider educational and research goals*. Carleton University Educational Development Centre Teaching Roundtable. September 25.

Schoenherr, J. & **Davies, J.** (2009). *Dissociating Perceptual Complexity in Graphical Representations of Science*. Carleton University Cognitive Science Colloquium Series, October 22.

Davies, J., & Gagné, J. (2009). *Visuo: A Model of Visuospatial Instantiation of Quantitative Magnitudes*. Carleton University Cognitive Science Colloquium Series, October 8.

Davies, J., Schoenherr, J. R., Thompson, R. & Burch, H. (2009). Visuospatial Imagination of Geometric Shape: Regularities and Inconsistencies. Poster and Member abstract in the *Proceedings of the Cognitive Science Society*.

Schoenherr, J. R., **Davies, J.**, & Bell, J. (2009). Graphical Representation of Science: Decoding Accuracy and Preference Ratings. Poster and Member abstract in the *Proceedings of the Cognitive Science Society*.

Schoenherr, J. R., Burch, H., **Davies, J.**, & Thompson, R. (2009). The Believability of Anthropomorphic Explanations of Natural Phenomena. Poster and Member abstract in the *Proceedings of the Cognitive Science Society*.

Davies, J. (2006) *Visualization in Human Imagination*. HOT Lab presentation. Carleton University. December 1.

Davies, J. (2006) *Visualization in Human Imagination*. Cognitive Science Colloquium Series. Carleton University. October 13.

Abelson, A., **Davies, J.**, Fraser, R., Kuo, T., Zuviria, E. & Glasgow, J. (2006). Protein structure from contact maps: An hierarchical approach. Poster at *First Canadian Student Conference on Biomedical Computing (CSCBC06)*, Kingston, Ontario.

Davies, J. (2004). Constructive adaptive visual analogy. *Cognitive Science Student Conference*. Georgia Institute of Technology. April 23.

Nersessian, N. J., Newstetter, W. C., Kurz-Milcke, E., **Davies, J.** & Malone, K. (2003) *Laboratory learning: Cognition and learning in biomedical engineering labs*. National Science Foundation Presentation.

Newstetter, W. C., Nersessian, N. J., **Davies, J.**, Kurz, E. & Malone, K. (2002) Biomedical Engineering Thinking and Learning: Phase 1—Reasoning in the lab. National Science Foundation presentation.

Davies, J. (1999). An evaluation of SIRRINE2 as a cognitive architecture based on a model of human arithmetic. *Proceedings of the Twenty-first Annual Conference of the Cognitive Science Society*, Vancouver, BC.

Davies, J. & Billman D. (1996) Hierarchical categorization and the effects of contrast inconsistency in an unsupervised learning task. *Proceedings of the Eighteenth Annual Conference of the Cognitive Science Society*. Lawrence Erlbaum, Mahwah, NJ. p750.

DEMONSTRATIONS

Davies, J. R., Lesh, N., Rich, C., Sidner, C. L., Gertner, A. S., & Rickel, J. (2001). Demonstration of collaborative interface agents using COLLAGEN. The 2001 *International Conference on Intelligent User Interfaces*.

RESEARCH-RELATED WEB SITES

Davies, J. (Ed.) *Cognitive Science Summaries*.
Internet webpage: <http://www.cc.gatech.edu/~jimmyd/summaries/>

TECHNICAL REPORTS

Davies, J. (2009) Don't waste student work: Using classroom assignments to contribute to online resources. Carleton University Cognitive Science Technical Report 2009-01, <http://www.carleton.ca/ics/TechReports>

Davies, J., Nersessian, N. J., & Goel, A. K. (2001). Visual models in analogical problem solving. Georgia Institute of Technology Cognitive Science technical report GIT-COGSCI-2001/03. Atlanta, Georgia.

Davies, J. R., Goel, A. K., Murdock, J. W., Simina, M., & Shippey, G. (2000). Three Cognitive Models. Georgia Institute of Technology Cognitive Science Report Series GIT-COGSCI-2000/03. Atlanta, Georgia.

Davies, J. R., Lesh, N., Rich, C., Sidner, C. L., Gertner, A. S., & Rickel, J. (2000). Incorporating tutorial strategies into an intelligent assistant. Mitsubishi Electric Research Labs. Technical report TR-2000-30. Cambridge, Massachusetts.

Davies, J. (1998) Correlation and consistent contrast biases shown in free sort categorization. Georgia Institute of Technology Cognitive Science Report Series GIT-COGSCI-98/02. Atlanta, Georgia.

TEACHING EXPERIENCE

CGSC 3001	Honours Seminar in Cognitive Science I INSTRUCTOR (ONE-HALF) Fall 2009	Carleton University
CGSC 4001	Artificial Intelligence for Cognitive Science INSTRUCTOR Winter 2009	Carleton University
CGSC 6800	Proseminar in Cognitive Science INSTRUCTOR Winter 2007, 2008, Fall 2008, 2009	Carleton University
CGSC 5001	Artificial Intelligence for Cognitive Science INSTRUCTOR Fall 2008, 2009	Carleton University
CGSC 2002	Theories and Methods in Cognitive Science INSTRUCTOR Winter 2007, 2008, 2009	Carleton University
CGSC 4001/5001	Special Topics in Cognitive Science (Artificial Intelligence) INSTRUCTOR Fall 2006, 2007	Carleton University
CISC 453	Advanced Artificial Intelligence INSTRUCTOR (ONE-THIRD) Spring 2006	Queen's University
CS 4000	Computing and Society TEACHING ASSISTANT Faculty: Dr. Colin Potts Summer 2001	Georgia Tech

CS/PSY/ISyE 6795	Introduction to Cognitive Science TEACHING ASSISTANT Faculty: Dr. Alexander Kirlik Spring 2001	Georgia Tech
CS 6010	Principles of Design TEACHING ASSISTANT Faculty: Dr. Wendy C. Newstetter, Michael McCracken, Dr. Ashok K. Goel Fall 2000	Georgia Tech
CS/PSY/ISyE 6795	Introduction to Cognitive Science TEACHING ASSISTANT Faculty: Dr. Dorrit O. Billman Spring 2000	Georgia Tech

STUDENT RESEARCH SUPERVISION

PH.D. SUPERVISION

W. Korey MacDougall. Fall 2009 - Present.

Sterling Somers. Fall 2007 - Present.

HONOURS THESIS SUPERVISION

Jessica Cockbain 2009 - Present

James MacAulay. Summer 2007 - Present.

Geoffrey Johnson. 2008 - Present.

Nicolas Di Noia. Spring 2007 - Winter 2010. *The categorical similarity mapping engine (CSME), the abstract relation mapping engine (ARME), and the direct structure mapping engine (DSME): Investigating category-based approaches to analogy mapping.*

Alexander Miller. 2008 - 2009. *Rethinking Machine Ethics: Functionally Defined Artificial Intelligent Agent Ethics*

Jonathan Gagné. 2007 - 2008. *Analogical Inference of Visual Properties*

Tyler Mair. 2007 - 2008. *Finding Fun: Examining the Source of Fun in Games*

MASTER'S THESES EXAMINED

Michael Henighan. Psychology. 2008. *Working Memory and Arithmetic.*

Jordan Schoenherr. Psychology. 2008. *The Dependency of Confidence Processing on Working Memory*

Joey Theberge. Psychology. 2008. *A Distributional Analysis of Reaction Times in Mental Rotation*

 PROFESSIONAL SERVICE

Editorial Board Membership
The Open Artificial Intelligence Journal

Reviewer for
Journal on Cognitive Systems Research,
Software Practice and Experience,
Journal of Digital Information,
Journal of Human-Computer Interaction
Conference of the Cognitive Science Society
IJCAI Workshop on Grand Challenges for Experience-Based Reasoning

Program Committee Membership
First Workshop on the Semantics of Visual Objects 2010
Diagrams 2010
Analogy 09

DEPARTMENTAL SERVICE

Technical Report Manager (2009-Present)

Graduate Committee (2009-2010)

Ontario Graduate Scholarship Appraisal Committee (2009)

Member, Institute of Cognitive Science Graduate Admissions Committee (2009)

Member, Institute of Cognitive Science Faculty Hiring Committee (2008-2009)

Cognitive Science / Psychology Promotion Committee (2008-2009)

Cognitive Science / Linguistics Promotion Committee (2008-2009)

Faculty calls to high school students, Carleton University (2008)

Coordinator, Cognitive Science Distinguished Lecture Series, Carleton University (2006-9).
 Under my tenure supported talks by (2009) Mark Ashcraft, Frank Ritter, Daniel Dennett,
 Daniel Ansari, Liane Gabora, (2008) Kepa Korta, Terry Stewart, (2007) Michael L. Ander-
 son, Alison Gopnik, Wayne Gray, Gary Libben, (2006) William Bechtel, and David Stork

Member, Institute of Cognitive Science Director Search Committee, Carleton University
 (2007)

Member, Faculty of Arts and Social Sciences Promotion Review Committee, Carleton Uni-
 versity (2008)

Member, Faculty of Arts and Social Sciences Tenure Review Committee, Carleton University
 (2007)

Speaker, Pitch to high school students, Carleton University (2007, 2008, 2009)

Cognitive Science Student Representative, Georgia Institute of Technology (1995, 1996, 1997,
 1998)

PROFESSIONAL SOCIETY MEMBERSHIP

American Association for Artificial Intelligence (lifetime member)

Cognitive Science Society

American Psychological Society