Curriculum Vitae

John Levine

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Name: **Dr John Michael LEVINE**

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Date of birth: 2nd December 1963

Current post: Senior Lecturer

Degrees Awarded

M.A. in Natural Sciences and Computer Science, St Catharine's College, University of Cambridge, June 1986.

M.Phil. in Computer Speech and Language Processing, Department of Engineering, University of Cambridge, October 1987.

Ph.D. in Computer Science, Computer Laboratory, University of Cambridge, July 1992.

Appointments Held

April 1990 – February 1997: Research Associate (AR1A), Department of Artificial Intelligence, University of Edinburgh.

February 1997 – April 2004: Research Fellow (AR2), Centre for Intelligent Systems and their Applications, University of Edinburgh.

April 2004 – present: Senior Lecturer, Department of Computer and Information Sciences, University of Strathclyde.

RESEARCH

My current research programme at Strathclyde is focussed on searching for intelligent behaviours in computer-based agents, especially agents that need to plan their future activities. I am active in three related areas: learning for AI planning using ideas from evolutionary computation; evolving competent agents; and directing such agents using an AI planning system.

External Funding Obtained

1. Principal Investigator, Evolving and Generalising Very High Quality Control Knowledge for AI Planning, EPSRC EP/D062764/1, £457,000 (full economic cost), £399,105 (EPSRC contribution). June 2006 – December 2009.

2. Co-Investigator (with Professor Alan Bundy): The Use of Data-Mining Techniques for the Automatic Formation of Tactics, EPSRC GR/S76328/01, £88,192. November 2003 – November 2005.

3. Principal grant holder: A Web-Based Repository of Applied Planning and Scheduling Research, funded by the European Union under the PLANET, the European Network of Excellence in AI Planning, €20,500. February 2003 – July 2003.

4. Co-Investigator (with Professor Austin Tate), Coalition Agents Experiment (CoAX), awarded under the DARPA Control of Agent-Based Systems program, $800,000. February 2000 – December 2002.

5. Principal grant holder: Preparation of Continuing Professional Development Courses (Artificial Intelligence Programming in Java, Genetic Algorithms and Genetic Programming) funded by SHEFC, £35,205. July 2001 – September 2002.

6. Principal Investigator: Coalition Joint Planning Aids, funded by the Defense and Evaluation Research Agency (DERA), £18,000. December 1999 – November 2000.

7. Principal Investigator: Collaborative Requirements Capture Tool Exploitation Project, funded by Racal Instruments Ltd., £20,000. January 1998 – September 1998.

The total value of all these grants is £975,877. The total value of all grants which I have held as PI is £487,685.

Research Fellowships

Honorary Research Fellow of the University of Edinburgh, 2004-2008.

Membership of Research Networks

Member of the EPSRC-funded Research Cluster in Swarm Intelligence, GR/S63274/01, July 2003 – December 2003.

Member of the EPSRC-funded Research Network on Artificial Intelligence and Games Technologies, EP/F033834/1, 2007-2010.

RESEARCH SUPERVISION

PhD Students

1. C. Henrik Westerberg, October 2000. An Investigation into the Use of Evolutionary Algorithms for Fully Automated Planning. Thesis completed 2005.

2. Georgios Yannakakis, October 2001. AI in Computer Games: Generating Interesting Interactive Opponents by the use of Evolutionary Computation. Joint supervision with Professor John Hallam. Thesis completed 2005.

3. Thomas McCallum, October 2002. Understanding How Knowledge is Exploited in Ant Algorithms. Thesis completed 2005.

4. Richard Carter, October 2003. An Investigation into Tournament Poker Strategy using Evolutionary Algorithms. Thesis completed 2007.

5. M. A. Hakim Newton, October 2004. Wizard: Learning Macro-Actions Comprehensively for Planning. Thesis submitted 2008.

6. Alastair Andrew, October 2005. An Investigation into the use of Constraints for Directing Local Neighbourhood Search.

7. Thomas Thompson, October 2006. Using AI Planning and Evolutionary Computation to Create Intelligent Game-Playing Agents.

8. Luke Dicken, January 2008. The Integration of Rational Planning and Reactive Behaviours in Game-Playing Agents.

MSc Students

9. Steven Willmott, MSc in Artificial Intelligence, University of Edinburgh. October 1998. Joint supervision with Professor Alan Bundy and Dr Julian Richardson.

10. Eva Safar, MSc in Artificial Intelligence, University of Edinburgh. October 1999. Joint supervision with Professor Chris Mellish.

11. Francis Chantree, MSc in Artificial Intelligence, University of Edinburgh. October 1999. Joint supervision with Professor Chris Mellish.

12. Alexander Nixon, MSc in Artificial Intelligence, University of Edinburgh. October 2000. Joint supervision with Professor Austin Tate.

13. Lea Ruscio, MSc in Artificial Intelligence, University of Edinburgh. October 2000. Joint supervision with Dr John Kingston.

14. John Gair, MSc in Artificial Intelligence, University of Edinburgh. October 2000.

15. Kenny Marshall, MSc in Artificial Intelligence, University of Edinburgh. October 2000.

16. Caroline Rogers, MSc in Artificial Intelligence, University of Edinburgh. October 2000.

17. Frederick Ducatelle, MSc in Artificial Intelligence, University of Edinburgh. October 2001.

18. Sunil Kothari, MSc in Artificial Intelligence, University of Edinburgh. October 2001.

19. Kushan Nammuni, MSc in Artificial Intelligence, University of Edinburgh. October 2001.

20. John Lawson, MSc in Artificial Intelligence, University of Edinburgh. October 2001.

21. Alan Stubbs, MSc in Artificial Intelligence, University of Edinburgh. October 2002.

22. Natalia Villanueva-Rosales, MSc in Artificial Intelligence, University of Edinburgh. October 2002.

23. David Humphreys, MSc in Artificial Intelligence, University of Edinburgh. October 2002.

24. Daniel Costich, MSc in Artificial Intelligence, University of Edinburgh. October 2002.

25. Mark Cumisky, MSc in Artificial Intelligence, University of Edinburgh. October 2002. Joint supervision with Dr Douglas Armstrong.

26. Giorgios Petkos, MSc in Artificial Intelligence, University of Edinburgh. October 2003.

27. Graham Ritchie, MSc in Artificial Intelligence, University of Edinburgh. October 2003.

28. Arnkell Petursson, MSc in Artificial Intelligence, University of Edinburgh. October 2003.

29. Jeong Kim Park, MSc in Artificial Intelligence, University of Edinburgh. October 2003.

30. Michael Good, MSc in Artificial Intelligence, University of Edinburgh. October 2003. Joint supervision with Dr Douglas Armstrong.

31. Russell Wotherspoon, MSc in Computer and Internet Technologies, University of Strathclyde. October 2006. Thesis title: Co-Evolution Applied to Tournament Poker.

PROFESSIONAL CONTRIBUTIONS

EPSRC Review College

1. Member of the EPSRC Review College, 2003-2005.

2. Member of the EPSRC Review College, 2006-2009.

3. Chair of the EPSRC ICT Funding Prioritisation Panel, September 2006.

4. Member of the EPSRC ICT Funding Prioritisation Panel, May 2006.

Editorial Boards

5. Member of the Editorial Board of the International Journal of Metaheuristics.

6. Member of the Review Board for International Journal of Applied Intelligence, 2002-2006.

Conference Chairs

7. Programme Chair, 20th Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2001), Edinburgh, December 2001.

International Conference Programme Committees

8. Member of the Programme Committee, IEEE Symposium on Computational Intelligence and Games, 2008.

9. Member of the Programme Committee, Genetic and Evolutionary Computation Conference (GECCO), 2007-2008.

10. Member of the Programme Committee, European Conference on Genetic Programming (EuroGP), 2004-2008.

11. Member of the Programme Committee, European Conference on Artificial Life (ECAL), 2005.

12. Member of the Programme Committee, European Workshop on Scheduling and Timetabling (EvoSTIM), 2002-2003.

13. Member of the Programme Committee, ICAI-01 Workshop on Learning and Adapting in Planning, 2001.

National Conference Programme Committees

14. Member of the Programme Committee, Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG), 2002-2008.

15. Member of the Programme Committee, UK Workshop on Computational Intelligence, 2001.

Reviewing for International Journals

16. Invited reviewer for the Journal of Artificial Intelligence Research.

17. Invited reviewer for the Journal of Automated Reasoning.

18. Invited reviewer for the Journal of Scheduling.

19. Invited reviewer for Journal of the Operational Research Society.

20. Invited reviewer for IEEE Transactions on Evolutionary Computation.

21. Invited reviewer for IEEE Transactions on Systems, Man and Cybernetics (Part B).

22. Invited reviewer for IEEE Transactions on Systems, Man and Cybernetics (Part C).

23. Invited reviewer for IEEE Intelligent Systems.

Other Reviewing Duties

24. Invited reviewer for the BCS/CHPC Distinguished Dissertation Competition, 2008.

Appointments as External Examiner

25. Allen Chan, MSc by Research, University of Kent, 2006. Ant Colony Optimization for High Dimensional and Multi-Label Classification in Data Mining.

Appointments as Internal Examiner

26. DaeEun Kim, PhD, 2002. A Quantitative Approach to the Analysis of Memory Requirements for Autonomous Agent Behaviours using Evolutionary Computation.

27. Emma Hart, PhD, 2002. Immunology as a Metaphor for Computational Information Processing: Fact or Fiction?

28. Joao Cavalcanti, PhD, 2003. Web Site Synthesis from Domain-specific Problem Descriptions.

29. Elias Biris, PhD, 2003. Towards a Framework for Model-Based Explanation Generation.

30. John Atkinson-Abutridy, PhD, 2004. Semantically Guided Evolutionary Knowledge Discovery from Texts.

RESEARCH PRESENTATIONS AND INVITED TALKS

1. “Evolutionary Computation and Computer Games” Invited lecture, School of Computing, Napier University, Edinburgh, May 2008.

2. “AI Planning and Computer Games.” Chair of session at the first meeting of the EPSRC Research Network for AI and Games, London, December 2007.

3. “Evolving Intelligence.” Invited seminar, School of Computing, Napier University, Edinburgh, November 2006.

4. “Evolving Intelligence.” Invited seminar, Department of Computer Science, University of Essex, October 2006.

5. “Evolving Intelligence.” CIS Christmas Lecture for Schools, University of Strathclyde, December 2005.

6. “Ants Can Solve Difficult Bin Packing Problems.” Invited seminar, School of Computing, Napier University, Edinburgh, 2005.

7. “Swarm Intelligence and Static Heterogenous Multiprocessor Scheduling.” Invited seminar, School of Computing, University of Nottingham, January 2004.

8. “Learning Action Strategies for Planning Domains using Genetic Programming.” Plenary presentation at the 22nd Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2003), Glasgow, December 2003.

9. “A Fast, Effective Local Search for Scheduling Independent Jobs in Heterogeneous Computing Environments.” Plenary presentation at the 22nd Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2003), Glasgow, December 2003.

10. “Inferring Gene Regulatory Networks with Swarm Intelligence” Invited talk for the second meeting of the EPSRC Research Cluster on Swarm Intelligence, Sheffield, November 2003.

11. “Ant Colony Optimisation for Grid Scheduling.” Invited talk, Meeting on Open Issues in Grid Scheduling, National e-Science Centre, Jointly organised by the EPSRC Interdisciplinary Scheduling Network and NeSC, Edinburgh, October 2003.

12. “Ants Can Solve Difficult Bin Packing Problems.” Plenary presentation at the First Multidisciplinary International Conference on Scheduling: Theory and Applications (MISTA 2003), Nottingham, August 2003.

13. “Swarm Intelligence at Edinburgh.” Invited talk for the first meeting of the EPSRC Research Cluster on Swarm Intelligence, University of Kent, July 2003.

14. “Ant Colony Optimisation and Local Search for Bin Packing and Cutting Stock Problems.” Plenary presentation at the Workshop on Local Search organised by the Operational Research Society, City University, London, 2002.

15. “Ant Colony Optimisation and Aggressive Local Search applied to Bin Packing and Cutting Stock Problems.” Invited talk at the Informatics Jamboree, Division of Informatics, University of Edinburgh, 2002.

16. “Limited Media Interface for AI Planning System.” Plenary presentation at the 19th Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2000), Open University, Milton Keynes, December 2000.

17. “Multi-Agent Planning in O-Plan.” Invited talk at the Unicom Seminar on Multi-Agent Planning, London, 1998.

18. “Generation of Multiple Qualitatively Different Courses of Action.” Invited talk at the 10th Young Operational Research Conference (Young OR10), Guildford, 1997.

19. “Class Hierarchies as a Multi-Purpose Knowledge Representation in a Requirements Capture and Design Tool.” Plenary Presentation at Expert Systems 96, Technical Stream). Cambridge, December 1996.

20. “CORECT: The Collaborative Requirements Capture Tool.” Invited talk at the CSCW Programme Symposium, EPSRC/DTI, Ambleside, 1996.

21. “The IDAS User Trials: Quantitative Evaluation of an Applied Natural Language Generation System.” Plenary presentation at the 5th European Workshop on Natural Language Generation, Leiden, Netherlands, May 1995.

22. “Natural Language Generation for Technical Documentation.” Invited talk at the Advanced Computation Laboratory, Imperial Cancer Research Fund, London, 1994.

23. “Combining Plan-Based and Feature-Based Algorithms for the Generation of Cooperative Responses.” Plenary Presentation at Expert Systems 93), Cambridge, December 1993.

24. “IDAS: Combining Hypertext and Natural Language Generation.” Plenary presentation at the 3rd European Workshop on Natural Language Generation, Judenstein, Austria, April 1991.

25. “A Flexible Bidirectional Dialogue System.” Invited seminar, MITRE Corporation, Bedford, USA, October 1990.

26. “PRAGMA – A Flexible Bidirectional Dialogue System.” Plenary presentation at the 8th National Conference on Artificial Intelligence (AAAI–90), Boston, USA, July 1990.

27. “Taking Generation Seriously in a Natural Language Question Answering System.” Plenary presentation at the 2nd European Workshop on Natural Language Generation, Edinburgh, April 1989.

TEACHING AND TEACHING ADMINISTRATION

I have been lecturing in Computer Science since October 1998. I have now lectured nine different classes and was course organiser of a large undergraduate course for two years. I am now the Chair of the Teaching Committee at the Department of Computer and Information Sciences and the Director of Undergraduate Teaching.

Taught Classes at Strathclyde

1. CS103 Machines, Languages and Computation, 2006-. This is a radically designed new class to teach the theory of computation to first year students. I wrote 32 new lectures and 16 new practical assignments for this course, including material from my own research.

2. 52236 Algorithms and Complexity, 2005. This is a 2nd year class teaching the fundamentals of algorithm properties and design. This was an already well-established class, but I added two new lectures illustrating the properties of various state-based search algorithms.

3. 52139 Computer Organisation, 2004. I designed 12 new lectures for this class, based on lectures provided by a well-respected textbook (Null and Labor), and designed new practicals for the class on low level programming using the MARIE simulator.

4. CS101 Topics in Computing, 2004-2007. Algorithms and Problem Solving. I designed and taught six 3-hour classes for this course. Each class used a newly designed one-hour lecture and included 2 hours of problem-based groupwork. The lectures were designed to engage the students' interest, asking them to write algorithms to solve common problems such as sorting, searching and file compression. I also was the overall organiser of the CS101 class.

Taught Classes at Edinburgh

5. BSc Honours/MSc Genetic Algorithms and Genetic Programming, 2001-2003. I wrote a complete set of new lectures for this module, including two taken directly from my own research. I further redesigned the module for 2002 with new tutorial exercises and two new lectures taken from my own research.

6. MSc Programming in Lisp, 2000. I redesigned this module, basing much of the material on AIAI's very successful commercial Common Lisp training course.

7. BSc Honours Knowledge Representation and Inference, 1998-1999. I wrote a complete new set of lectures and tutorial exercises for this module.

8. First year Knowledge Representation and Inference, 2000. This was already a mature and well-liked module, but I added one new lecture to the existing material.

9. First year Planning and Search, 2001. I redesigned about half the lecture material for this module, and included one new lecture from my own research.

Teaching Administration and Management

1. Chair of the Teaching Committee, Department of Computer and Information Sciences, February 2007-.

2. Director of Undergraduate Teaching, Department of Computer and Information Sciences, February 2007-.

3. Departmental representative on Academic Administration Committee (AAC), 2007-2013.

4. Departmental representative on Science Faculty Board of Studies, 2005-2009.

5. Course Organiser, Artificial Intelligence 1, Department of Artificial Intelligence, University of Edinburgh, 1999-2001.

LIST OF PUBLICATIONS

Journal and High Quality International Conference Papers (RAE 4* and 3* Papers)

Papers in this category are subject to stringent international peer-review and are published in one of the leading international outlets for the research area. I have highlighted those papers where I made a very significant contribution to the work by putting my name in bold.

1. "Learning Macro-Actions for Arbitrary Planners and Domains." M. A. H. Newton, **J. Levine**, M. Fox, and D. Long. Proceedings of the 17th International Conference on Automated Planning and Scheduling (ICAPS-07), AAAI Press, 256-263. September 2007.

2. "Emerging Cooperation With Minimal Effort: Rewarding Over Mimicking." G. N. Yannakakis, **J. Levine**, and J. Hallam. IEEE Transactions on Evolutionary Computation, 11 (3), 382-396. June 2007.

3. "Evolutionary Computation Variants for Cooperative Spatial Coordination." G. N. Yannakakis, J. Hallam and **J. Levine**. Proceedings of the 2005 IEEE Congress on Evolutionary Computation (CEC-05), 2715-2722. September 2005.

4. "Ant colony optimization and local search for bin packing and cutting stock problems." **J. Levine** and F. Ducatelle. Journal of the Operational Research Society, 55 (7), 705-716. July 2004.

5. "An Evolutionary Approach for Interactive Computer Games." G. N. Yannakakis, **J. Levine**, and J. Hallam. Proceedings of the 2004 IEEE Congress on Evolutionary Computation (CEC-04), 986-993. June 2004.

6. "Evolutionary approaches to fuzzy modelling for classification." M. Galea, Q. Shen, and J. Levine. The Knowledge Engineering Review 19 (1), 27-59. March 2004.

7. "Task Achieving Agents on the World Wide Web." A. Tate, J. Dalton, **J. Levine** and A. Nixon. In Fensel, D., Hendler, J., Lieberman, H. and Wahlster, W. (eds.) Spinning the Semantic Web, MIT Press. February 2003.

8. "Applying Adversarial Planning Techniques to Go." S. Willmott, J. Richardson, A. Bundy and **J. Levine**. Theoretical Computer Science, 252 (1-2), 45-82. February 2001.

9. "O-P3: Supporting the Planning Process using Open Planning Process Panels." **J. Levine**, A. Tate and J. Dalton. IEEE Intelligent Systems, 15 (5), 56-62. September/October 2000.

10. "Using AI Planning Technology for Army Small Unit Operations." A. Tate, **J. Levine**, P. Jarvis and J. Dalton. Proceedings of the 5th International Conference on Artificial Intelligence Planning and Scheduling (AIPS-2000), AAAI Press, 379-386. April 2000.

11. “Generation of Multiple Qualitatively Different Plan Options.” A. Tate, J. Dalton and **J. Levine**. Proceedings of 4th International Conference on AI Planning Systems (AIPS-98), AAAI Press, 27-34. June 1998.

12. “Automatic Generation of Technical Documentation.” E. Reiter, C. Mellish and J. Levine. Applied Artificial Intelligence, 9 (3), 259-287, 1995. Reprinted in Maybury, M. and Wahlster, W. (eds.) Readings in Intelligent User Interfaces, Morgan Kaufmann, 141-156, July 1998.

13. “Automatic Generation of On-Line Documentation in the IDAS Project.” E. Reiter, C. Mellish and J. Levine. Proceedings of the Third Conference on Applied Natural Language Processing, Association for Computational Linguistics, 64-71, 1992.

14. “PRAGMA – A Flexible Bidirectional Dialogue System.” **J. Levine**. Proceedings of the 8th National Conference on Artificial Intelligence (AAAI–90), The MIT Press, 964-969, 1990.

Conference and Workshop Papers (RAE 2* and 1* Papers)

Papers in this category are subject to international or national peer-review and are typically published in workshops associated with international conferences and national conferences.

15. “Automatically Detecting Neighbourhood Constraint Interactions using Comet.” A. Andrew and **J. Levine**. Proceedings of the 5th International Workshop on Local Search Techniques in Constraint Satisfaction held at CP 2008. September 2008.

16. “Learning Macros That Are Not Captured by Given Example Plans.” M. A. H. Newton, **J. Levine**, M. Fox, and D. Long. Poster Paper at the 18th International Conference on Automated Planning and Scheduling (ICAPS 08). September 2008.

17. “Evolution of Generalised Policies via Evolutionary Computation.” M. Galea, **J. Levine**, H. Westerberg and D. Humphreys. Proceedings of the 26th Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2007). December 2007.

18. “Combinations of Domain Enhancing Macro-Actions in Planning.” M. A. H. Newton and **J. Levine**. Proceeding of the Workshop on General Artificial Intelligence, EPIA'07. December 2007.

19. “Wizard: Suggesting Macro-Actions Comprehensively.” M. A. H. Newton and **J. Levine**. Proceedings of the Doctoral Consortium held at ICAPS 07. September 2007.

20. “Constraint Directed Variable Neighbourhood Search.” A. Andrew, **J. Levine**, and D. Long. Proceedings of the 4th International Workshop on Local Search Techniques in Constraint Satisfaction held at CP 2007. September 2007.

21. “Evolving Macro-Actions for Planning.” M. A. H. Newton and **J. Levine**. Proceedings of the Workshop on AI Planning and Learning held at ICAPS 07. September 2007.

22. “An Investigation into Tournament Poker Strategy using Evolutionary Algorithms.” R. G. Carter and **J. Levine**. Proceedings of the 2007 IEEE Symposium on Computational Intelligence and Games (CIG 2007), 117-124. April 2007.

23. “EvoTanks: Co-Evolutionary Development of Game-Playing Agents.” T. Thompson, **J. Levine**, and G. Hayes. Poster Paper at the 2007 IEEE Symposium on Computational Intelligence and Games (CIG 2007). April 2007.

24. “Learning Macro-Actions Genetically from Plans.” M. A. H. Newton, **J. Levine**, M. Fox, and D. Long. Proceedings of the 25th Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2006). December 2006.

25. “Genetically Evolved Macro-Actions in AI Planning Problems.” M. A. H. Newton, **J. Levine**, and M. Fox. Proceedings of the 24th Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2005). December 2005.

26. “Numeric Briefcase Domain Metric Optimisation using an EA.” H. Westerberg and **J. Levine.** Proceedings of the 23rd Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2004). December 2004.

27. “A Hybrid Ant Algorithm for Scheduling Independent Jobs in Heterogeneous Computing Environments.” G. Ritchie and **J. Levine**. Proceedings of the 23rd Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2004). December 2004.

28. “The Use of Data-Mining for the Automatic Formation of Tactics.” H. Duncan, A. Bundy, J. Levine, A. Storkey, and M. Pollet. Proceedings of the Workshop on Computer-Supported Mathematical Theory Development held at IJCAR 2004. July 2004.

29. “Learning Action Strategies for Planning Domains using Genetic Programming.” **J. Levine** and D. Humphreys. Proceedings of the 22nd Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2003). December 2003.

30. “A Fast, Effective Local Search for Scheduling Independent Jobs in Heterogeneous Computing Environments.” G. Ritchie and **J. Levine**. Proceedings of the 22nd Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2003). December 2003.

31. “Ants Can Solve Difficult Bin Packing Problems.” **J. Levine** and F. Ducatelle. Abstract in Proceedings of the 1st Multidisciplinary International Conference on Scheduling: Theory and Applications (MISTA 2003). August 2003.

32. “Apollo 13: A Challenge Domain for the Planning Community.” H. Westerberg and **J. Levine**. Proceedings of the Workshop on the Planning Competition held at ICAPS 2003. June 2003.

33. “Performance, Robustness and Effort Cost Comparison of Machine Learning Mechanisms in FlatLand.” G. N. Yannakakis, **J. Levine**, Hallam, J., and

M. Papageorgiou. 11th IEEE Mediterranean Conference on Control and Automation (MED'03). June 2003.

34. “Gene Network Reconstruction Using a Distributed GA with a Backprop Local Search.” M. Cumiskey, **J. Levine** and D. Armstrong. Raidl, G. et al. (eds.) Applications of Evolutionary Computing: EvoWorkshops 2003, Springer LNCS 2611, 177-181. April 2003.

35. “Learning Action Strategies for Planning Domains using Genetic Programming.” **J. Levine** and D. Humphreys. In Raidl, G. et al. (eds.) Applications of Evolutionary Computing: EvoWorkshops 2003, Springer LNCS 2611, 684-695. April 2003.

36. “Multi Niche Parallel GP with a Junk-code Migration Model.” S. Garcia, J. Levine and F. Gonzalez. Poster Paper in Ryan, C., Soule, T., Keijzer, M., Tsang, E., Poli, R. and Costa, E. (eds.) Genetic Programming: 6th European Conference, Springer LNCS 2610. April 2003.

37. “Skill-based Resource Allocation using Genetic Algorithms and Ontologies.” K. Nammuni, **J. Levine** and J. Kingston. Proceedings of the International Workshop on Intelligent Knowledge Management Techniques (I-KOMAT 2002). September 2002.

38. “Optimising Plans using Genetic Programming.” C. H. Westerberg and **J. Levine**. Proceedings of the UK Workshop on Computational Intelligence (UKCI-01). September 2001.

39. “Ant Colony Optimisation for Bin Packing and Cutting Stock Problems.” F. Ducatelle and **J. Levine**. Proceedings of the UK Workshop on Computational Intelligence (UKCI-01), September 2001.

40. “Optimising Plans using Genetic Programming.” C. H. Westerberg and **J. Levine**. Poster Paper at the 6th European Conference on Planning (ECP-01), Toledo, Spain, September 2001.

41. “Investigation of Different Seeding Strategies in a Genetic Planner.” C. H. Westerberg and **J. Levine**. In Boers, E. et al. (eds.) Applications of Evolutionary Computing: EvoWorkshops 2001, Springer LNCS 2037, 505-514. April 2001.

42. “GenPlan: Combining Genetic Programming and Planning.” C. H. Westerberg and **J. Levine**. Proceedings of the 19th Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2000). December 2000.

43. “Applying Genetic Algorithms to Hierarchical Task Network Planning.” L. Ruscio, **J. Levine** and J. Kingston. Proceedings of the 19th Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2000), December 2000.

44. “Limited Media Interface for AI Planning System.” A. Nixon, **J. Levine** and A. Tate. Proceedings of the 19th Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2000). December 2000.

45. “O-Plan: a Web-based AI Planning Agent.” A. Tate, J. Dalton and **J. Levine**. AAAI-2000 Intelligent Systems Demonstration at the 17th National Conference on Artificial Intelligence (AAAI-2000). August 2000.

46. “O-P3: Supporting the Planning Process using Open Planning Process Panels.” A. Tate, **J. Levine**, J. Dalton and S. Aitken. Proceedings of the AAAI-99 Workshop on Agent Based Systems in the Business Context. July 1999.

47. “Using Shared Models of Activity to Underpin Coalition Planning.” A. Tate, J. Dalton, **J. Levine** and P. Jarvis. Proceedings of the International Workshop on Knowledge-Based Planning for Coalition Forces. May 1999.

48. “An Adversarial Planning Approach to Go.” S. Willmott, J. Richardson, A. Bundy, and

    J. Levine. In H.J. van den Herik and H. Iida (eds.), Computers and Games: First International Conference, Springer LNCS 1558, 93-112. November 1998.

49. “O-P3 – Open Planning Process Panels.” A. Tate, **J. Levine**, J. Dalton and S. Aitken. Proceedings of the ARPI Fall Workshop. October 1998.

50. “The Collaborative Requirements Capture Tool: A Multiparadigm Solution to a Real-World Problem.” I. Rogers, **J. Levine**, C. Pattison and L. Plowman. In Macintosh, A. and Cooper, C. (eds.) Applications and Innovations in Expert Systems IV (Proceedings of Expert Systems 96, Applications Stream). December 1996.

51. “Class Hierarchies as a Multi-Purpose Knowledge Representation in a Requirements Capture and Design Tool.” **J. Levine**, I. Rogers, A. Bennington and C. Pattison. In Nealon, J. and Hunt, J. (eds.) Research and Development in Expert Systems XIII (Proceedings of Expert Systems 96, Technical Stream). December 1996.

52. “A Domain Aware Tool for Guiding Requirements Capture and Design.” I. Rogers, **J. Levine**, C. Pattison and L. Plowman. Proceedings of OzCHI’96. November 1996.

53. “CORECT: Using Natural Language Generation as an Integral Part of a CSCW Tool for Requirements Capture.” **J. Levine** and C. Mellish. In Connolly, J. and Pemberton, L. (eds.) Linguistic Concepts and Methods in CSCW, Springer, 163-176. June 1996.

54. “NLG Applications to Technical Documentation – A View Through IDAS.” C. Mellish, E. Reiter and J. Levine. In Adorni, G. and Zock, M. (eds.) Trends in Natural Language Generation: an Artificial Intelligence Perspective, Springer LNCS 1036, 368-382. March 1996.

55. “The IDAS User Trials: Quantitative Evaluation of an Applied Natural Language Generation System.” **J. Levine** and C. Mellish. Proceedings of the 5th European Workshop on Natural Language Generation. May 1995.

56. “CORECT: Combining CSCW with Natural Language Generation for Collaborative Requirements Capture.” **J. Levine** and C. Mellish. Poster Paper at the 7th International Workshop on Natural Language Generation. June 1994.

57. “Combining Plan-Based and Feature-Based Algorithms for the Generation of Cooperative Responses.” **J. Levine**. In Bramer, M. and Macintosh, A. (eds.) Research and Development in Expert Systems X (Proceedings of Expert Systems 93). December 1993.

58. “The Intelligent Documentation Advisory System.” L. Poynter, J. Levine, J. Walker, E. Reiter, P. Tyson and Mellish, C. Proceedings of the IEEE Colloquium on Industrial Applications of AI. January 1992.

59. “IDAS: Combining Hypertext and Natural Language Generation.” **J. Levine**, A. Cawsey, C. Mellish, L. Poynter, E. Reiter, P. Tyson and J. Walker. Proceedings of the 3rd European Workshop on Natural Language Generation. April 1991.

60. “Taking Generation Seriously in a Natural Language Question Answering System.” **J. Levine**. Proceedings of the 2nd European Workshop on Natural Language Generation. April 1989.

Edited Proceedings

61. “Proceedings of the 20th Workshop of the UK Planning and Scheduling Special Interest Group (PlanSIG 2001).” **J. Levine** (ed.). December 2001.

Theses and Dissertations

62. “A Flexible Bidirectional Question-Answering System.” Ph.D. thesis, Computer Laboratory, University of Cambridge, 1992.

63. “Generating Sentences from Logical Forms.” M.Phil. thesis, Department of Engineering, University of Cambridge, 1987.

64. “Explanations from a Rule-Based Expert System.” Dissertation for the Computer Science Tripos, Computer Laboratory, University of Cambridge, 1986.

Other Publications

Papers in this category include technical reports and other publications which have not been subject to peer-review.

65. “Wizard: Compiled Macro-Actions for Planner-Domain Pairs.” M. A. H. Newton, **J. Levine**, M. Fox, and D. Long. Booklet for the 6th International Planning Competition, Learning Track. September 2008.

66. “Multi-Perspective Planning – Using Domain Constraints to Support the Coordinated Development of Plans.” A. Tate, J. Dalton and **J. Levine**. Technical Report AFRL-IF-RS-TR-1999-60, Air Force Research Laboratory, Rome, NY, USA, April 1999.

67. “Adversarial Planning in Complex Domains.” S. Willmott, A. Bundy, **J. Levine** and J. Richardson. DAI Research Paper 889, Department of Artificial Intelligence, University of Edinburgh. 1998.

68. “CORECT: The Collaborative Requirements Capture Tool.” C. Mellish, **J. Levine**, R. Milne, C. Pattison, A. Bennington, R. Høhne, S. Middleton, P. Tyson, J. Walker, L. Plowman, I. Rogers and M. Sharples. Proceedings of the CSCW Programme Symposium, EPSRC/DTI. 1996.

69. “Tailoring Plans to Users With Different Levels of Expertise.” E. Reiter, J. Levine and C. Mellish. DAI Research Paper 548, Department of Artificial Intelligence, University of Edinburgh. 1991.

70. “The Intelligent Documentation Advisory System.” C. Mellish, L. Poynter, P. Tyson, J. Walker and J. Levine. DAI Research Paper 492, Department of Artificial Intelligence, University of Edinburgh. 1990.

71. “The Theory and Implementation of a Bidirectional Dialogue System.” **J. Levine** and L. Fedder. Technical Report No. 182, Computer Laboratory, University of Cambridge. 1989.