

Curriculum Vitae

Contact Information

Name : Jorge Andrés Baier Aranda
Position : Assistant Professor, Dept. of Computer Science. Pontificia Universidad Católica de Chile.
Work Address : Depto. de Ciencia de la Computación, Vicuña Mackenna 4860, Macul, Santiago, Chile
E-mail : jabaier@ing.puc.cl

Education

Academic and Professional Degrees

- PhD. Dept. of Computer Science, University of Toronto. 2010.
- Master in Engineering Sciences. Pontificia Universidad Católica de Chile.
- Industrial Civil Engineer with diploma in Computer Science. Pontificia Universidad Católica de Chile.
- Bachelor in Engineering Sciences. Pontificia Universidad Católica de Chile.

Awards

- *Best Student Paper Award*. 6th Symposium on Combinatorial Search (SoCS), 2013.
- Honorable mention for *ICAPS Best Dissertation Award*. International Conference on Planning and Scheduling (ICAPS). June, 2011.
- *Distinguished Performance Award* (2nd place) for the planner HPlan-P, at the 5th International Planning Competition (qualitative preferences track). ICAPS 2006.
- *Excellence in Teaching*. School of Engineering, Pontificia Universidad Católica de Chile. August 2004.
- *Marcos Orrego Puelma* award of the Institute of Engineers of Chile to the best engineer student graduated in Chile during 2000. November, 2001.
- *Escuela de Ingeniería* award given by the School of Engineering of the Pontificia Universidad Católica de Chile to the best student of engineering of the promotion. November, 2000.
- *Departamento de Ciencia de la Computación* award given by the Department of Computer Science of the Pontificia Universidad Católica de Chile to the best student of computer science of the promotion. November, 2000.
- First place (national level) in the *International Collegiate Programming Contest* organized by the ACM, as a member of the team of the Pontificia Universidad Católica de Chile. November, 1998.
- Third place (national level) in the *National Physics Olimpiad*. August, 1993.
- First place in the *Metropolitan Physics Olimpiad*. November, 1993.

Selected Publications

1. Baier, J.; Mombourquette, B.; and McIlraith, S. A. Diagnostic Problem Solving via Planning with Ontic and Epistemic Goals. In Proceedings of the 14th International Conference on Principles of Knowledge Representation and Reasoning (KR), 2014.
2. Hernandez, C.; Baier, J. A.; and Asin, R. Making A* Run Faster than D*-Lite for Path-Planning in Partially Known Terrain. In Proceedings of the 24th International Conference on Automated Planning and Scheduling (ICAPS), 2014.
3. Rivera, N.; Illanes, L.; Baier, J. A.; and Hernandez, C. Reconnecting with the Ideal Tree: An Alternative to Heuristic Learning in Real-Time Search. In Proceedings of the 6th Symposium on Combinatorial Search (SoCS), 2013. **Best Student Paper Award.**
4. Botea, A., Baier, J., Harabor D., Hernández, C. (2013) *Moving Target Search with Compressed Path Databases*. In Proceedings of the 19th International Conference on Automated Planning and Sched. (ICAPS). Rome, Italy. To appear.
5. Rivera, N., Baier, J., Hernández, C. (2013) *Weighted Real-Time Heuristic Search*. In Proceedings of the 12th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS). St. Paul, Minnesota.
6. Davis-Mendelow, S.; Baier, J. A.; and McIlraith, S. (2013) *Assumption-Based Planning: Generating Plans and Explanations under Incomplete Knowledge*. In Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI).
7. Vikas Agrawal, Jorge Baier, Kostas Bekris, Yiling Chen, Artur S. d'Avila Garcez, Pascal Hitzler, Patrik Haslum, Dietmar Jannach, Edith Law, Freddy Lecue, Luis C. Lamb, Cynthia Matuszek, Hector Palacios, Biplav Srivastava, Lokendra Shastri, Nathan Sturtevant, Roni Stern, Stefanie Tellex, Stavros Vassos. (2012) Reports of the AAAI 2012 Conference Workshops. AI Magazine, 33(4).
8. Hernández, C., Baier, J. (2012). *Avoiding and Escaping Depressions in Real-Time Heuristic Search*. Journal of Artificial Intelligence Research (JAIR) 43: 523-570
9. Hernández, C., Baier, J., Uras, T., Koenig, S. Koenig. *Position Paper: Incremental Search Algorithms Considered Poorly Understood*. Proceedings of the Fifth Annual Symposium on Combinatorial Search (SOCS) 2012. Niagara Falls, Canada.
10. Hernández, C., Baier, J., Uras, T., and Koenig, S. (2012). *TBAA*: Time-Bounded Adaptive A**. In Proceedings of the 11th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS). Valencia, Spain.
11. Baier, J. *Planning with rich goals, preferences and procedural operators via reformulation*. *AI Communications* 24(4): 347-348 (2011).
12. Sohrabi, S., Baier, J., and McIlraith, S. A. (2011). *Preferred Explanations: Theory and Generation via Planning*. In Proceedings of the 25th AAAI Conference on Artificial Intelligence (AAAI), San Francisco, August.

13. Hernández, C., Baier, J. (2011). *Real-Time Heuristic Search with Depression Avoidance*. In Proceedings of the 22nd International Joint Conference on Artificial Intelligence (IJCAI-11). Barcelona, Spain.
14. Hernández, C., Baier, J. (2011). *Escaping Heuristic Depressions in Real-Time Heuristic Search (Extended Abstract)*. In Proceedings of the 10th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS). Taipei, Taiwan.
15. Hernández, C., Baier, J. (2011). *Fast Subgoaling for Pathfinding via Real-Time Search*. Proceedings of the 21st International Conference on Automated Planning and Scheduling. Freiburg, Germany.
16. Hernández, C., Baier, J. (2011). *Escaping Heuristic Hollows in Real-Time Search without Learning*. In Proceedings of the 29th International Conference of the Chilean Computer Science Society. Antofagasta, Chile.
17. Sohrabi, S., Baier, J., and McIlraith, S. A. (2010). *Diagnosis as Planning Revisited*. In Proceedings of the 12th International Conference on Knowledge Representation and Reasoning (KR). Toronto, Canada.
18. Baier, J. A., Bacchus, F., and McIlraith, S. A. (2009). *A Heuristic Search Approach to Planning with Temporally Extended Preferences*. Artificial Intelligence , 173(5-6):593–618.
19. Baier, J. A. and Botea, A. (2009). *Improving Planning Performance Using Low-Conflict Relaxed Plans*. In Proceedings of the 19th International Conference on Automated Planning and Sched. (ICAPS). Thessaloniki, Greece.
20. Muise, C., McIlraith, S., Baier, J. A., and Reimer, M. (2009). *Exploiting N-gram Analysis to Predict Operator Sequences*. In Proceedings of the 19th International Conference on Automated Planning and Sched. (ICAPS). Thessaloniki, Greece.
21. Sohrabi, S., Baier, J., and McIlraith, S. A. (2009). *HTN Planning with Preferences*. In Proceedings of the 21st International Joint Conference on Artificial Intelligence (IJCAI), pages 1790–1797. Pasadena, California.
22. Baier, J. A., Fritz, C., Bienvenu, M., and McIlraith, S. A. (2008). *Beyond Classical Planning: Procedural Control Knowledge and Preferences in State-of-the-Art Planners*. In Proceedings of the 23rd AAAI Conference on Artificial Intelligence (AAAI), pages 1509–1512.
23. Baier, J. A. and McIlraith, S. A. (2008). *Planning with Preferences*. Artificial Intelligence Magazine, 29(4):25–36.
24. Fritz, C., Baier, J. A., and McIlraith, S. A. (2008). *ConGolog, Sin Trans: Compiling ConGolog into Basic Action Theories for Planning and Beyond*. In Proceedings of the 11th International Conference on Knowledge Representation and Reasoning (KR), pages 600–610. Sydney, Australia.
25. Jorge Baier and Bacchus, F. and Sheila McIlraith “*A Heuristic Search Approach to Planning with Temporally Extended Preferences*” Proceedings of the Twentieth International Joint Conference on Artificial Intelligence (IJCAI-07), pp. 1808-1815, January 2007, Hyderabad, India
26. Jorge Baier, Christian Fritz, and Sheila McIlraith, “*Exploiting Procedural Domain Control Knowledge in State-of-the-Art Planners*”. Proceedings of the Seventeenth International Conference on Automated Planning and Scheduling (ICAPS-07), September 22 - 26 2007, Providence, Rhode Island

27. Jorge Baier “*Improving Relaxed-Plan-Based Heuristics*”, Proceedings of the First ICAPS Workshop on Heuristics for Domain-independent Planning: Progress, Ideas, Limitations, Challenges, September 22 , Providence, Rhode Island
28. Jorge Baier and Sheila McIlraith, 2007 “*On Domain-Independent Heuristics for Planning with Qualitative Preferences*, Proceedings of the 7th IJCAI International Workshop on Nonmonotonic Reasoning, Action and Change (NRAC-07), January, Hyderabad, India
29. Jorge Baier and Sheila McIlraith “*Planning with First-Order Temporally Extended Goals Using Heuristic Search*” Proceedings of the 21st National Conference on Artificial Intelligence (AAAI06), pp. 788-795, July 2006, Boston, MA.
30. Jorge Baier and Sheila McIlraith. “*On Planning with Programs that Sense*” Proceedings of the 10th International Conference on Principles of Knowledge Representation and Reasoning (KR06), pp. 492-502, June 2006, Lake District, UK.
31. Katia Wechsler, Jorge Baier, Miguel Nussbaum and Ricardo Baeza-Yates. “*Semantic Search in the WWW Supported by a Cognitive Model*”. In Web-Age Information Management (WAIM 2004). 2004. LNCS 3129, pp 179-186. Springer-Verlag.
32. Jorge Baier and Javier Pinto. “*Planning under Uncertainty as GOLOG Programs*”. Journal of Experimental and Theoretical Artificial Intelligence, 15(4), pp. 383-405, 2003.
33. Jorge Baier. “*On procedure Recognition in the Situation Calculus*”. In Proc. of “SCCC-02: International Conference of the Chilean Computer Science Society”, Copiapo, November, 2002.
34. Jorge Baier and Javier Pinto. “*Integrating True Concurrency into the Robot Programming Language Golog*”. In Proc. of the “SCCC-99: International Conference of the Chilean Computer Science Society”, Talca, Noviembre, 1999.
35. Jorge Baier and Javier Pinto. “*Non-instantaneous actions and Concurrency in the Situation Calculus*”. In Proc. of the “ESSLI-98 Workshop on Reasoning about Actions: Foundations and Applications”, G. De Giacomo y D. Nardi (eds.), Saarbrücken, August, 1998.

Scholarships

- Beca Presidente de la Republica, Government of Chile, for Ph.D. studies. 2004.
- Fulbright Scholarship for doctoral studies in the US. 2004. Declined.

Teaching Experience

- Courses taught at Pontificia Universidad Católica: Automata Theory and Languages (2002, 2011–2013), Artificial Intelligence (2000, 2002, 2010–2013), Logic for Computer Science (2002, 2003), Artificial Intelligence Workshop (2003), Logic and Knowledge Representation (2011,2013), Introduction to Programming (2010), Topics in Artificial Intelligence (2010, 2012,2014), Topics in Theoretical Computer Science (2012), Topics in Computer Science (2012).
- Courses taught at Universidad del Desarrollo: Automata Theory (1999,2000,2001), Artificial Intelligence (2001).

Research Projects

- VRI Start-up grant, Pontificia Universidad Católica de Chile. 2010–2011.
- Fondecyt Iniciacion (start-up) no. 11110321. 2011-2013.

Professional Service

Organization of Events

- Member of the Local Organizing Committee, 14th Ibero-American Conference on Artificial Intelligence.
- Program Committee Co-Chair, International Conference of the Chilean Computer Science Society.
- Organizer (Local Arrangements) of the International Conference on Automated Planning and Scheduling (ICAPS).

Journal Reviewing

- Transactions of Computational Intelligence and AI in Games, 2014.
- Artificial Intelligence Journal. 2008, 2010, 2011, 2014.
- Journal of Artificial Intelligence Research. 2009, 2013.
- Journal of Logic and Computation. 2008, 2010.

Board Participation

- Treasurer of the Chilean Computer Science Society. 2010–present.

Conference Reviewing

- PC member, AAAI Conference on Artificial Intelligence, 2010, 2011.
- PC member, International Conference on Planning and Scheduling (ICAPS), 2010, 2011, 2012, 2013, 2014.
- Senior PC member, International Joint Conference on Artificial Intelligence (IJCAI), 2011, 2013.
- PC member, European Conference on Artificial Intelligence (ECAI), 2014.
- Program Committee Member, Ibero-American Conference on AI (IBERAMIA). 2008.
- Reviewer for the International Conference on Principles and Practice of Constraint Programming (CP). 2007.
- Reviewer for the International Conference on the Principles of Knowledge Representation and Reasoning (KR). 2007 and 2008.
- Reviewer for International Conference on Automated Planning and Scheduling (ICAPS). 2008 and 2009.

- Program Committee Member, Conferencia de la Asociación Española para la o Inteligencia Artificial (CAEPIA). 2007.

Other

- Member of the grant committee for “Becas Chile”, Conicyt.
- Chief developer, NetRed S.A. One year and a half between mid 2000 and 2001.