

- Passionate about deep **understanding** sparking off **software** that reshapes reality.
- Enjoy looking into problems and data, **crafting** questions and solutions, focused on the results.
- Strong technical, analytic and communicative **skills**, shown in research, lecturing and activism.
- **Award** winning work on Artificial Intelligence combining **theoretical** and **empirical** insights.

## EDUCATION

### UNIVERSITAT POMPEU FABRA

PhD, Computer Science and  
Digital Communication

*Excellent Cum Laude*

Advisor: Prof. Hector Geffner

Dec 2009 | Barcelona, Spain

### UNIVERSIDAD SIMÓN BOLÍVAR

MS, Computer Science

May 2003 | Caracas, Venezuela

BS, Computing Engineering

May 1997 | Caracas, Venezuela

## TEAM WORK

- **Collaborate** for research, both supervised/supervising, on-site/remote, leading to successful academic publications. (See list in next pages)
- **Organized two academic workshops.** Invited researchers to submit work, guided the discussion and revision of the articles.
- **Stimulated, coordinated and enabled** online citizen activism. Main activities involved data crowdsourcing and event-mapping for improving citizen awareness during natural disasters, and during elections.

## COMMUNICATION / COORD

- **Presented** original research at conferences, including a tutorial. (See list in next pages).
- **Gave invited talks** at Nasa Ames, Univ of Amsterdam, Univ of Sao Paulo.
- **Lectured** hundreds of hours to groups of up to 130 students on AI, Logic, Computational Logic, and Discrete Math.
- **Designed and guided** programming labs assignments to dozens of students' groups on AI, Computational Logic, Parsing, and Functional Programming.

## PEER RECOGNITION

- **Reviewed** hundreds of articles submitted to main AI journals (AIJ, JAIR, KBS, ACM-TIST), and conferences (AAAI, IJCAI, ICAPS, ECAI).
- **Influenced** the AI community on using a new technique for solving rich planning problems. **Cited** by the main AI textbook: Artificial Intelligence: A Modern Approach, 3rd ed, by Russel & Norvig.

## LANGUAGES

- English: professional proficiency.
- Spanish: native.
- Catalan: passive proficiency.

## EMPLOYMENT HISTORY

### NUANCE COMMUNICATIONS | Senior Research Scientist

Nov 2016 – now | Montreal, Canada

### UNIVERSITAT POMPEU FABRA | Visiting Professor

Jan 2013 – Dec 2015 | Barcelona, Spain

### UNIV. CARLOS III DE MADRID | Postdoctoral Scholar

Dec 2010 – Dec 2012 | Madrid, Spain

### PALO ALTO RESEARCH CENTER (PARC) | Research Intern

July 2007 – September 2007 | California, USA

### UNIVERSIDAD SIMÓN BOLÍVAR | Assistant Professor

2001-2010 | Caracas, Venezuela. On leave during PhD

## SKILLS AND EXPERIENCE

### RESEARCH | Computer science, experiment-driven

- Current work on Question Answering for Natural language, using or exploring • part-of-speech (POS) • semantic analysis • ontologies • information retrieval • word embedding • machine learning.
- Mastered a broad set of **Artificial Intelligence** techniques, including sequential decision making & logic/probabilistic reasoning
- Specialized on **combining AI techniques** for a wider range of applications.
- Developed **original research**, introduced new algorithms, with useful theoretical properties and effective performance.
- **Filed a patent** as result of **applying abstract research** to an industrial problem at PARC, a Xerox subsidiary, during a 3-months internship.

### DEVELOPING | Study, think, code, measure, discuss, report, repeat

- **Used extensively** Java • C / C++ • Python • Computer Clusters • functional and logic programming • version control • Bash • Linux
- Adopted models, algorithms, and technologies as needed.
- Programmed **complex algorithms**, requiring millions of object instances.
- Designed and ran hundreds of **experiments** over hundreds of problems.
- Analyzed **input data and output results**, using mathematical properties, including statistics and probabilities.
- **2015–2016.** Feasibility study for **Machine-Learning-based tool for early detection of psychological issues at school**, using Python+scikit-learn.

## RESEARCH AWARDS

### AI SOFTWARE COMPETITION | # problems solved given time limit

- **Winner** of the Conformant track of the 5th Int. *Planning Competition* 2006.
- Required fast-paced iterations of coding, experiments, and data analysis.

## PAPERS AND PHD THESIS

- For solving AI planning problems by using other AI&CS models and tools.
- *IJCAI-JAIR Best Paper Prize 2012* to an “outstanding paper published in JAIR in the preceding five calendar years”.
- *2010 Best Dissertation Award* by the International Conference on Automated Planning and Scheduling (ICAPS).
- Honourable Mention at the *2009 Artificial Intelligence Dissertation Award* by ECCAI, the European Coordinating Committee for AI.

## PUBLICATIONS

### PHD THESIS

- H Palacios. *Translation-based approaches to Conformant Planning*. Supervised by Prof. Hector Geffner. Dec 2009. Barcelona, Spain.
  - Honourable Mention at the *2009 Artificial Intelligence Dissertation Award* by ECCAI, the European Coordinating Committee for AI.
  - *2010 Best Dissertation Award* by the International Conference on Automated Planning and Scheduling (ICAPS).

### JOURNAL ARTICLES

- S Jimenez, A Jonsson, H Palacios. *Temporal Planning with a Classical Planner*. Working paper at 2016..
- V. Agrawal, J. Baier, K. Bekris, Y. Chen, A.S. d'Avila Garcez, P. Hitzler, P. Haslum, D. Jannach, E. Law, F. Lecue, L.C. Lamb, C. Matuszek, H. Palacios, B. Srivastava, L. Shastri, N. Sturtevant, R. Stern, S. Tellex, S. Vassos. *Reports of the AAAI 2012 Conference Workshops*. AI Magazine. 33(4): 119-126 (2012). ISSN 0738-4602.
- H. Palacios and H. Geffner. *Compiling Uncertainty Away in Conformant Planning Problems with Bounded Width*. Journal of Artificial Intelligence Research (JAIR). 35: 623-765. 2009. ISSN 1076-9757.
  - *IJCAI-JAIR Best Paper Prize 2012* to an "outstanding paper published in JAIR in the preceding five calendar years".

### PATENTS

- M. B. Do, H. Palacios, R. Zhou, L. Kuhn, J. de Kleer. *Methods and Systems for Active Diagnosis through Logic-based Planning*. Patent US8145334. Issue date: 27 Mar 2012.
  - During internship at PARC (formely Xerox PARC).

### EDITOR

- Papers from the 2012 AAAI Workshop "Problem Solving Using Classical Planners". H. Palacios, P. Haslum, J. Baier. 98 pp. 2012. ISBN 978-1-57735-577-9.
- Proceedings of the ICAPS'10 workshop on Planning and Scheduling Under Uncertainty (13 May 2010), Bidot J., Bryce D., Buffet O., Palacios H., Sanner S. (Editors). 2010.

### REFEREED CONFERENCE ARTICLES

- K. Fernandes, J.S. Cardoso, H. Palacios. *Learning and Ensembling Lexicographic Preference Trees with Multiple Kernels*. 2016 International Joint Conference on Neural Networks (IJCNN 2016).
- S. Jimenez, A. Jonsson, H. Palacios. *Temporal Planning With Required Concurrency Using Classical Planning*. 25Th International Conference on Automated Planning and Scheduling (ICAPS). Jerusalem, Israel. June 7-11, 2015.
- C. Boutilier, J. Lang, J. Oren, H. Palacios. *Robust Winners and Winner Determination Policies under Candidate Uncertainty*. Twenty-Eighth AAAI Conference on Artificial Intelligence (AAAI). July 27-31, 2014. Québec, Canada.
- A. Albore, H. Palacios and H. Geffner. *Compiling Uncertainty Away in Non-Deterministic Conformant Planning*. European Conference on Artificial Intelligence (ECAI), p. 465-470. ISBN 978-1-60750-605-8. Lisbon, Portugal, August 16-20, 2010.
- J. Hoffmann, N. Fates, H. Palacios. *Brothers in Arms? On AI Planning and Cellular Automata*. European Conference on Artificial Intelligence (ECAI). p. 223-228. ISBN 978-1-60750-605-8. Lisbon, Portugal. August 16-20, 2010.
- B. Bonet, H. Palacios and H. Geffner. *Automatic Derivation of Finite-State Machines for Behavior Control (Nectar Track)*. 24th AAAI conference on Artificial Intelligence (AAAI), p. 1656-1659. ISBN 978-1-57735-463-5. Atlanta, Georgia, USA, July 11-15, 2010
- B. Bonet, H. Palacios and H. Geffner. *Automatic Derivation of Memoryless Policies and Finite-State Controllers Using Classical Planners*. 19th International Conference on Automated Planning and Scheduling (ICAPS), p. 34-41. ISBN 978-1-57735-406-2. Thessaloniki, Greece, September 19-23, 2009.
- A. Albore, H. Palacios and H. Geffner. *A Translation-based Approach to Contingent Planning*. Int. Joint Conf. on Artificial Intelligence (IJCAI), p. 1623-1628. ISBN 978-1-57735-426-0. Pasadena, California, USA, July 11-17, 2009.
- A. Albore, H. Palacios and H. Geffner. *Fast and Informed Action Selection for Planning with Sensing*. In Current Topics in Artificial Intelligence, vol 4788/2007. Selected papers of the 12th Conference of the Spanish Association for Artificial Intelligence (CAEPIA), p. 1-10. ISBN: 978-3-540-75270-7. Salamanca, España. November 12-13, 2007.
- H. Palacios and H. Geffner. *From Conformant into Classical Planning: Efficient Translations That May be Complete Too*. In Proceedings of the 17th International Conference on Automated Planning and Scheduling (ICAPS), p. 264-271. ISBN 978-1-57735-344-7. Providence, Rhode Island, USA, September 22-26, 2007.
  - Best Student Paper Award at ICAPS 2007.
- H. Palacios and H. Geffner. *Compiling Uncertainty Away: Solving Conformant Planning Problems Using a Classical Planner (Sometimes)*. In Proceedings of the 21st National Conference on Artificial Intelligence (AAAI), p. 900-905. ISBN 978-1-57735-281-5. , Boston, Massachusetts, USA, July 16-20, 2006.
- H. Palacios and H. Geffner. *Mapping Conformant Planning into SAT through Compilation and Projection*. In Lecture Notes in Computer Sciences, vol 4177/2006. Selected papers of the 11th Conference of the Spanish Association for Artificial Intelligence (CAEPIA), 2005. p. 311-320. ISBN 3-540-45914-6. Santiago de Compostela, España, November 16-18, 2005.

– Best Paper Finalist at CAEPIA 2005.

- H. Palacios, B. Bonet, A. Darwiche, H. Geffner. *Pruning Conformant Plans by Counting Models on Compiled d-DNNF Representations*. In Proceedings of the 15th International Conference on Automated Planning and Scheduling (ICAPS), 2005. p 141-150. ISBN 978-1-57735-220-4. Monterey, California, USA. June 5-10 2005.
- H. Palacios and H. Geffner. *Planning as Branch and Bound: A Constraint Programming Implementation*. In Proceedings of the 28th Latin-American Conference on Informatics (infoUYclei), 2002. p. 239-251. ISBN 9974-7704-1-6. Montevideo, Uruguay, November 25-29 2002.

## **REFEREED WORKSHOPS ARTICLES AND OTHER REFEREED PUBLICATIONS**

- H. Palacios, A. Albore, H. Geffner. *Compiling Contingent Planning into Classical Planning: New Translations and Results*. Models and Paradigms for Planning under Uncertainty: a Broad Perspective, ICAPS 2014.
- C. Boutilier, J. Lang, J. Oren, H. Palacios. *Robust Winners and Winner Determination Policies under Candidate Uncertainty*. Fourth International Workshop on Computational Social Choice, 2012.
- H. Palacios and H. Geffner. *From Conformant into Classical Planning: Efficient Translations That May be Complete Too*. Doctoral Consortium of the 17th International Conference on Automated Planning and Scheduling (ICAPS), 2007.
- H. Palacios and H. Geffner. *Compiling Uncertainty Away: Solving Conformant Planning Problems Using a Classical Planner (Sometimes)*. In Proceedings of the Workshop on Planning Under Uncertainty and Execution Control for Autonomous Systems, ICAPS 2006.
- H. Palacios and H. Geffner. *Mapping Conformant Planning into SAT through Compilation and Projection*. In Proceedings of the 1st International Workshop on Quantification in Constraint Programming held during the International Conference on Principles and Practice of Constraint Programming (CP), 2005.