

León Illanes

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[CV compiled on 2019-10-10]

EDUCATION

University of Toronto, Toronto, ON, Canada

- Ph.D. in Computer Science Sep 2014 – Present
 - Supervisor: Professor Sheila McIlraith
 - Research areas: Artificial Intelligence, Automated Planning, Knowledge Representation, Reinforcement Learning

Pontificia Universidad Católica de Chile, Santiago, Chile

- Master of Engineering Sciences, Department of Computer Science Jul 2011 – Dec 2013
 - Thesis: Reconnection with the ideal tree: a new approach to real-time search
 - Supervisor: Professor Jorge Baier
 - Research areas: Artificial Intelligence, Automated Planning, Real-time Search
 - Graduated with Maximum Distinction
- Degree in Computer Engineering Mar 2006 – Dec 2013
 - Six year engineering program. Four year Bachelor's Degree and two years of specialization.

RESEARCH EXPERIENCE

University of Toronto, Department of Computer Science, Toronto, ON, Canada

- Graduate Research Assistant Sep 2014 – Present
 - Projects: Abstractions for Automated Planning, Numeric Planning, Generalized Planning, Planning and Reinforcement Learning
 - Supervisor: Professor Sheila McIlraith
 - Research areas: Artificial Intelligence, Automated Planning, Knowledge Representation

Pontificia Universidad Católica de Chile, School of Engineering, Department of Computer Science

- Graduate Research Assistant Jul 2011 – Dec 2013
 - Projects: Automated Planning with Preferences, Real-time Heuristic Search
 - Supervisor: Professor Jorge Baier
 - Research areas: Artificial Intelligence, Automated Planning, Real-time Search.
- Undergraduate Research Assistant Mar 2011 – Jun 2011
 - Project: Automated Planning with Preferences
 - Supervisor: Professor Jorge Baier
 - Research areas: Artificial Intelligence, Automated Planning.

PUBLICATIONS

JOURNALS

- [1] N. Rivera, L. Illanes, J.A. Baier, and C. Hernández, “Reconnection with the Ideal Tree: A New Approach to Real-Time Search,” *Journal of Artificial Intelligence Research*, vol. 50, pp. 235–264, Jun 2014.

CONFERENCES

- [2] R. Toro Icarte, L. Illanes, M. P. Castro, A. A. Cire, S. A. McIlraith, J. C. Beck, “Training Binarized Neural Networks with MIP and CP,” in *Principles and Practice of Constraint Programming - 25th International Conference (CP)*, Stamford, Connecticut, USA, Sep 2019.
- [3] L. Illanes, X. Yan, R. Toro Icarte and S. A. McIlraith, “Symbolic Planning and Model-Free Reinforcement Learning: Training Taskable Objects,” in *The 4th Multidisciplinary Conference on Reinforcement Learning and Decision Making (RLDM)*, Montréal, Québec, Canada, Jul 2019.
- [4] L. Illanes, and S. A. McIlraith, “Generalized Planning via Abstraction: Arbitrary Numbers of Objects,” in *Proceedings of the 33rd AAAI Conference on Artificial Intelligence (AAAI)*, Honolulu, Hawaii, USA, Jan 2019.
- [5] L. Illanes, and S. A. McIlraith, “Numeric Planning via Abstraction and Policy Guided Search,” in *Proceedings of the 26th International Joint Conference on Artificial Intelligence (IJCAI)*, Melbourne, Victoria, Australia, Aug 2017.
- [6] L. Illanes, and S. A. McIlraith, “Numeric Planning via Search Space Abstraction (Extended Abstract),” in *Proceedings of the 9th Annual Symposium on Combinatorial Search (SoCS)*, Tarrytown, New York, USA, Jul 2016.
- [7] N. Rivera, L. Illanes, and J. A. Baier, “Real-Time Pathfinding in Unknown Terrain via Reconnection with an Ideal Tree,” in *Proceedings of the 14th Ibero-American Conference on Artificial Intelligence (IBERAMIA)*, Santiago, Chile, Nov 2014.
- [8] N. Rivera, L. Illanes, J. A. Baier, and C. Hernández, “Reconnecting with the Ideal Tree: An Alternative to Heuristic Learning in Real-Time Search,” in *Proceedings of the 6th Annual Symposium on Combinatorial Search (SoCS)*, Leavenworth, Washington, USA, Jul 2013. **Best Student Paper Award.**

WORKSHOPS

- [9] L. Illanes, X. Yan, R. Toro Icarte, and S. A. McIlraith, “Leveraging Symbolic Planning Models in Hierarchical Reinforcement Learning,” in *Knowledge Representation & Reasoning Meets Machine Learning Workshop (KR2ML@NeurIPS)*, Vancouver, British Columbia, Canada, Dec 2019. **To appear.**
- [10] L. Illanes, and S.A. McIlraith, “Numeric Planning via Search Space Abstraction,” in *Proceedings of the Workshop on Knowledge-based Techniques for Problem Solving and Reasoning (KnowProS@IJCAI)*, New York City, New York, USA, Jul 2016.

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| ACADEMIC AWARDS | Best Teaching Assistant Team , University of Toronto, Department of Computer Science For exceptional support of student learning and development in <i>Introduction to Artificial Intelligence</i> . | 2016 |
| | Departmental Entrance Scholarship (DES) , University of Toronto Awarded to select students on their first two years at the University of Toronto. | 2014 – 2016 |
| | Best Student Paper Award at <i>6th Symposium on Combinatorial Search</i> For “Reconnecting with the Ideal Tree: An Alternative to Heuristic Learning in Real-Time Search.” | 2013 |
| TEACHING EXPERIENCE | University of Toronto , Department of Computer Science ■ Teaching Assistant: <i>Introduction to Artificial Intelligence, Topics in Knowledge Representation & Reasoning</i> . | 2015 – 2019 |
| | Pontificia Universidad Católica de Chile , School of Engineering, Department of Computer Science ■ Teaching Assistant: <i>Introduction to Programming, Discrete Mathematics, Automata Theory and Formal Languages, Artificial Intelligence</i> . | 2009 – 2013 |
| SERVICE | Program Committee Member: ■ AAAI 2019 and AAAI 2019 Student Abstract and Poster Program. ■ Workshop on Generalized Planning at ICAPS 2017. | |
| | Sub-reviewer: ■ AAAI 2015, AAAI 2016, AAAI 2017. ■ ICAPS 2015, ICAPS 2017, ICAPS 2019. ■ SoCS 2016. | |
| PROFESSIONAL EXPERIENCE | Synopsys , Santiago, Chile ■ Research & Development Engineer Worked on semiconductor photomask manufacturing software (CATS). | Jan 2014 – Jun 2014 |
| | Apella , Santiago, Chile ■ Co-founder and CTO • Think tank web-platform for increasing citizen participation in politics • Medical platform for communication of physicians and patients | Mar 2012 – Jan 2013 |
| | Nimbic , Santiago, Chile ■ Software Engineering Intern Worked on billing scheme for cloud based Electronic Design Automation platform. | Dec 2011 – Jan 2012 |
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| LANGUAGES | ■ Spanish: Native language. ■ English: Fluent, native level (speaking, reading, writing). | <i>Bilingual Diploma, IBO 2005</i> |
| OTHER SKILLS | Programming Languages Fluent in C, C++, Python. Proficient in Matlab, Java. Dabbled in Clojure, C#, ELisp, Haskell, Prolog, Rust, and more. | |
| | Operating Systems Linux, Windows, OS X | |
| | Other L ^A T _E X, HTML | |
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