León Illanes

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[*CV compiled on 2019-07-25*]

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

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," 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, 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)*, New York City, New York, USA, Jul 2016.

ACADEMIC AWARDS

Best Teaching Assistant Team, University of Toronto, Department of Computer Science — 2016
For exceptional support of student learning and development in *Introduction to Artificial Intelligence*.

Departmental Entrance Scholarship (DES), University of Toronto — 2014 – 2016

Awarded to select students on their first two years at the University of Toronto.

Best Student Paper Award at *6th Symposium on Combinatorial Search* 2013

For "Reconnecting with the Ideal Tree: An Alternative to Heuristic Learning in Real-Time Search."

TEACHING EXPERIENCE

University of Toronto, Department of Computer Science

- Teaching Assistant: *Introduction to Artificial Intelligence*, *Topics in Knowledge Representation & Reasoning*. 2015 – 2019

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

- Teaching Assistant: *Introduction to Programming*, *Discrete Mathematics*, *Automata Theory and Formal Languages*, *Artificial Intelligence*. 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 Jan 2014 – Jun 2014

  Worked on semiconductor photomask manufacturing software (CATS).

Apella, Santiago, Chile

- Co-founder and CTO Mar 2012 – Jan 2013
  - Think tank web-platform for increasing citizen participation in politics
  - Medical platform for communication of physicians and patients

Nimbic, Santiago, Chile

- Software Engineering Intern Dec 2011 – Jan 2012

  Worked on billing scheme for cloud based Electronic Design Automation platform.

LANGUAGES

- Spanish: Native language.
- English: Fluent, native level (speaking, reading, writing). *Bilingual Diploma, IBO 2005*

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

LaTeX, HTML