

Ignacio Cano

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EDUCATION	University of Washington	Seattle, WA
	Ph.D., Computer Science and Engineering	2019
	Advisor: Arvind Krishnamurthy	
	Thesis: <i>Optimizing Distributed Systems using Machine Learning</i>	
	University of Washington	Seattle, WA
	M.S., Computer Science and Engineering	2015
	Advisor: Carlos Guestrin	
	Thesis: <i>Towards Geo-Distributed Machine Learning</i>	
	Universidad Tecnológica Nacional	Córdoba, Argentina
	M.Eng., Systems Engineering	2015
	Advisors: Eduardo Destéfanis and Mario Groppo	
	Thesis: <i>Distributed System for Collective Intelligence</i>	
	Universidad Tecnológica Nacional	Córdoba, Argentina
	Specialization, Systems Engineering	2011
	Advisor: Mario Groppo	
	Thesis: <i>Augmented Cordoba</i>	
	Universidad Blas Pascal	Córdoba, Argentina
	B.Eng., Telecommunications Engineering	2008
	Advisor: Héctor Risso	
INDUSTRY	Google	Seattle, WA
EXPERIENCE	Software Engineer	2019-present
	Working in the Cloud Platform group.	
	Google	Mountain View, CA
	Ph.D. Software Engineering Intern	Summer 2017
	With <i>Andrey Gubichev</i>	
	Worked in the F1 team applying machine learning techniques to improve F1's query optimizer. In particular, we trained models for predicting cardinality of query (sub)plans as well as query runtime.	
	<ul style="list-style-type: none">• Improved correlation of current cost model significantly (more than 3x).• Reduced 2.5x the build size by fixing a Tensorflow Serving bug.• Received a peer bonus from another team for helping with their ML tasks.	

Nutanix

Seattle, WA

Member of Technical Staff Intern

Spring 2016

With *Srinivas Aiyar*

Worked on a data science project to characterize private clouds. Used machine learning techniques to improve task scheduling in Nutanix clusters.

- Performed an extensive characterization of on-premise clusters.
- Improved cluster average latency by up to 20% in simulated workloads.
- Published two papers (SoCC and NSDI).

Microsoft

Redmond, WA

Research Intern

Summer 2015

With *Markus Weimer*

Worked in the CISL team on a project to enable efficient cross data center machine learning using Apache REEF and YARN.

- Integrated REEF with a federated version of YARN.
- Enhanced REEF to support large models (more than 100M features).
- Published two papers (NIPS LearningSys and IEEE Data Eng. Bull.).

Intel

Córdoba, Argentina

Senior Software Engineer

2011-2013

Participated in various projects that mainly involved the development of Intel's Application Store, also known as Intel AppUp Center.

- Led Java and Spring Framework trainings for a team of ~ 60 people.
- Regarded as Java specialist and served as Scrum Master backup.
- Re-designed entire server components using proper design patterns.
- Received more than 10 peer bonuses for helping different team members.

Nimbuzz

Córdoba, Argentina

Software Engineer

2009-2011

Worked in the development of Nimbuzz messenger for Blackberry devices. Also, involved in the development of Nimbuzz highly scalable backend services.

- Served as Team Leader backup in the Blackberry team.
- Improved performance and solved connection issues in our BB client.
- Lead developer of "Announcements" to promote the use of our clients.
- Designed and implemented services to support Nimbuzz 5M users.

Motorola

Córdoba, Argentina

Software Engineer

2008-2009

Participated in the development of NBBS, Motorola's solution to remotely manage CPEs using OMA-DM and TR-069 protocols.

- Track Leader of NBBS-WiMAX, a team of 6 people.
- Designed and implemented enhancements to NBBS's OMA-DM stack.
- Followed strict protocols to comply with CMMI 5 development process.

Motorola

Córdoba, Argentina

Intern

2006-2007

Participated in a mobile application (J2ME-based) project to manage personal health records using the Continuity of Care Record (CCR) standard.

PUBLICATIONS	I. Cano. <i>Optimizing Distributed Systems using Machine Learning.</i> Ph.D. thesis, University of Washington. 2019.	
	I. Cano, L. Chen, P. Fonseca, T. Chen, C. Cheah, K. Gupta, R. Chandra, A. Krishnamurthy. <i>ADARES: Adaptive Resource Management for Virtual Machines.</i> Preprint. 2018.	
	I. Cano, M. Weimer, D. Mahajan, C. Curino, G. Matteo Fumarola, A. Krishnamurthy. <i>Towards Geo-Distributed Machine Learning.</i> In IEEE Data Engineering Bulletin, Global-scale Data Management Issue. December 2017.	
	I. Cano, S. Aiyar, V. Arora, M. Bhattacharyya, A. Chaganti, C. Cheah, B. Chun, K. Gupta, V. Khot, A. Krishnamurthy. <i>CURATOR: Self-Managing Storage for Enterprise Clusters.</i> In Proceedings of the Fourteenth USENIX Symposium on Networked Systems Design and Implementation (NSDI). 2017.	
	I. Cano, S. Aiyar, A. Krishnamurthy. <i>Characterizing Private Clouds: A Large-Scale Empirical Analysis of Enterprise Clusters.</i> In Proceedings of the Seventh ACM Symposium on Cloud Computing (SoCC). 2016.	
	I. Cano, M. Weimer, D. Mahajan, C. Curino, G. Matteo Fumarola. <i>Towards Geo-Distributed Machine Learning.</i> In Neural Information Processing Systems LearningSys Workshop (NIPS). 2015.	
POSTERS	I. Cano, S. Singh, C. Guestrin. <i>Distributed Non-Parametric Representations for Vital Filtering: UW at TREC KBA 2014.</i> In Proceedings of the Twenty-Third Text Retrieval Conference (TREC). 2014.	
	I. Cano, S. Singh, B. Taskar, C. Guestrin. <i>Real-time Modeling of City Events: An Exploration on Seattle's Public Transportation.</i> In Terraswarm Annual Meeting. Berkeley, 2013.	
AWARDS	Argentine Presidential Fellowship	2013-2015
	Argentina's Presidential Cabinet and Fulbright Commission	
	Group Recognition Award	2012
	Software and Services Group, Intel Corporation	
	Teamwork Role Model	2012
	Argentina Software Design Center, Intel Corporation	
	Undergraduate Merit-based Scholarship	2002-2006
	Universidad Blas Pascal	

GRADUATE	CSE546 Machine Learning
COURSEWORK	CSE547 Machine Learning for Big Data
	CSE521 Design and Analysis of Algorithms
	CSE550 Computer Systems
	CSE515 Statistical Methods (Graphical Models)
	CSE517 Natural Language Processing
	CSE544 Principles of Data Management
	CSE551 Operating Systems
	CSE599 Deep Learning Systems
	CSE599 Online and Adaptive Methods for Machine Learning
PROGRAMMING	Languages: Java, Python, C++, C#, Javascript, SQL
SKILLS	Frameworks: Spring, JUnit, Mockito, Maven, JQuery
	ML Fwks/Libs: Keras, Tensorflow, TFLearn, Numpy, Scipy, Sklearn, Pandas
CERTIFICATIONS	Sun Certified Java Programmer, Standard Edition 5.0 (Sun Microsystems)
	Certified Scrum Master (Scrum Alliance)
	Object Oriented Software Architecture Fundamentals (10 Pines)
	Advanced Object Oriented Software Architecture (10 Pines)
	Object Oriented Concepts (Brainbench)
OPEN SOURCE	Knative: Kubernetes-based platform for managing serverless workloads
CONTRIBUTIONS	Apache REEF: A stdlib for writing high performance apps on Big Data clusters
	RABIT: Fault-tolerant Allreduce and Broadcast for distributed ML apps
LANGUAGES	Spanish (native), English (advanced), French (intermediate)
REFERENCES	Available upon request