

# Jennifer Ortiz

Computer Science PhD Student  
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## Education

University of Washington

Expected degree: PhD, Computer Science 2012-Present

National Science Foundation Graduate Research Fellow 2012-2015

GO-MAP Fellow 2018-2019

Advisor: Magdalena Balazinska

University of Washington

Master of Science, Computer Science 2012-2014

Arizona State University

Bachelor of Science Degree, Applied Computing (Databases)

GPA: 4.0, Summa Cum Laude, Dean's List: 2008 – 2012

Advisors: Suzanne Dietrich, Mahesh Chaudhari

## Graduate Research Projects

**QUERY OPTIMIZATION WITH DEEP REINFORCEMENT LEARNING** 2018

**A DYNAMIC SCALING ENGINE FOR DATA ANALYTICS** 2015-2018

Developing a system that automatically scales a cluster in order to guarantee performance-centric SLAs

**PERSONALIZED SERVICE LEVEL AGREEMENTS IN THE CLOUD** 2012-2015

Defined and developed Personalized Service Level Agreements (PSLAs), a tool to help users select from different configurations in order to analyze their data in the cloud

**DATA MANAGEMENT FOR ASTRONOMY USE-CASES** 2013-2014

Collaborated with astronomers at the University of Washington to facilitate exploration of simulation datasets

## Publications

- ***SLAOrchestrator: Reducing the Cost of Performance SLAs in the Cloud***, J. Ortiz, B. Lee, M. Balazinska, J. Gehrke, and J. L. Hellerstein, USENIX ATC 2018
- ***Learning State Representations for Query Optimization with Deep Reinforcement Learning***, J. Ortiz, M. Balazinska, J. Gehrke, and S. S. Keerthi, DEEM Workshop with SIGMOD 2018

- ***The Myria Big Data Management System and Analytics System and Cloud Service***, J. Wang, T. Baker, M. Balazinska, D. Halperin, B. Haynes, B. Howe, D. Hutchison, S. Jain, R. Maas, P. Mehta, D. Moritz, B. Myers, **J. Ortiz**, D. Suciu, A. Whitaker, S. Xu, CIDR 2017.
- ***PerfEnforce Overview : A Dynamic Scaling Engine for Analytics with Performance Guarantees***, **J.Ortiz**, SIGMOD 2017 Student Research Competition (Extended Abstract).
- ***PerfEnforce Demonstration: Data Analytics with Performance Guarantees***, **J. Ortiz**, B. Lee, M. Balazinska, SIGMOD Demonstration 2016.
- ***Changing the Face of Database Cloud Services with Personalized Service Level Agreements***, **J. Ortiz**, V. T. Almeida, M. Balazinska, CIDR 2015.
- ***Towards a hybrid relational and XML benchmark for loosely-coupled distributed data sources***, M.B. Chaudhari, S.W. Dietrich, **J. Ortiz**, S. Pearson, Journal of Systems and Software 2015.
- ***Big-Data Management Use-Case: A Cloud Service for Creating and Analyzing Galactic Merger Trees***, S. Loebman, **J. Ortiz**, L. Choo, L. Orr, L. Anderson, D. Halperin, M. Balazinska, T. Quinn, and F. Governato, Workshop on Data Analytics in the Cloud (DanaC) with SIGMOD 2014.
- ***Demonstration of the Myria Big Data Management Service***, D. Halperin, V. T. de Almeida, L. Choo, S. Chu, P. Koutris, D. Moritz, **J. Ortiz**, V. Ruamviboonsuk, J. Wang, A. Whitaker, S. Xu, M. Balazinska, B.Howe, and D. Suciu, SIGMOD 2014.
- ***A Vision for Personalized Service Level Agreements in the Cloud***, **J. Ortiz**, V. T. Almeida, M. Balazinska, Workshop on Data Analytics in the Cloud (DanaC) with SIGMOD 2013.
- ***Learning from Database Performance Benchmarks***, **J. Ortiz**, S. W. Dietrich, and M.B. Chaudhari, Consortium for Computing Sciences in Colleges, March 2012.

## Internships

**Microsoft Research (Redmond)** June 2014 – September 2014  
Implemented an extension to Microsoft SQL Server's query optimizer  
Mentor: Hyunjung Park

## Presentations

**Ortiz, J.**, Cloud Data Analytics with Performance Guarantees, Google, Kirkland, WA, Oct. 2017.

**Ortiz, J.**, Building Scalable Systems with Performance Guarantees, Women's Research Day 2016, Seattle, WA.

**Ortiz, J.**, A Dynamic Scaling Engine for Data Analytics with Performance Guarantees, UW Database Day 2015, Seattle, WA.

**Ortiz, J.**, Changing the Face of Database Cloud Services with Personalized Service Level Agreements, CIDR 2015, Asilomar, CA.

**Ortiz, J.**, A Personalized Service Level Agreement in the Cloud, Workshop on Data Analytics in the Cloud with SIGMOD 2013, New York, NY, June 2013.

**Ortiz, J.**, Learning from Database Performance Benchmarks, CCSC, Stockton, CA, March 2012.

**Ortiz, J.**, A Modified SIR Model of the Rotavirus Infection, Arizona Nevada Academy of Science Conference, Glendale, AZ, 2011.

## Awards

- Outstanding Graduate Award from Arizona State University 2012
- Recipient of the Moeur Award at Arizona State University 2012
- Received the Presidential Scholarship from Arizona State University from 2008-2012
- Recipient of a National Science Foundation Graduate Research Fellowship 2012-2015
- Received Travel Grant from the SACNAS National Conference 2010, 2011 and 2012
- Received Richard Tapia Travel Scholarship in 2013
- Runner-up Winner of the Madrona Prize 2013 (research with greatest potential for commercialization)
- Received SIGMOD Travel Award in 2014, 2016 and 2018
- Runner-up Winner of the 2017 SIGMOD Student Research Competition
- Recipient of a GO-MAP Dissertation Fellowship 2018-2019
- Received USENIX Student Travel Award 2018

## Teaching Experience

Employer: University of Washington

Teaching Assistant for CSE444 (Database Internals)

Winter 2017

- Held weekly sections to help reinforce course material

Employer: Arizona State University

Computer Science 101 and 102 Lab Assistant

2009 – 2012

- Assisted professors with creation of programming assignments

June 2018

- Provided individual help to students through programming examples

Employer: Arizona State University

BSS Instructor

July 2012

- Created syllabus for week long course on *Introduction to Programming*
- Provided 7<sup>th</sup> graders with hands-on examples to reinforce learning

## **Outreach**

- Volunteered in the Martin Luther King event at the West Campus in 2012
- Volunteered twice for the Sonia Kovalevsky Mathematics event at the West Campus in 2010 and 2012
- Volunteered at the SIGMOD conference at Scottsdale, Arizona in 2012
- Participating in the ASU Alumni Mentor Program 2014