

ROLANDO S. GARCIA, PH.D.

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EDUCATION

University of California, Berkeley

Berkeley, CA

Ph.D. in Computer Science advised by Dr. Joseph M. Hellerstein

Summer 2017 - Summer 2024

Dissertation: *The Management of Context in the Machine Learning Lifecycle*

Arizona State University

Tempe, AZ

B.S. in Computer Science, *Summa Cum Laude*

Spring 2014 - Spring 2017

Northern Arizona University

Flagstaff, AZ

91 credits at 3.97 GPA in Philosophy, English, Accounting

Fall 2010 - Fall 2013

AWARDS AND FELLOWSHIPS

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| ASU Presidential Postdoctoral Fellowship, Ira A. Fulton Schools of Engineering | 2024 |
| Dell Technologies Inc. Research Award, one year of funding | 2023 |
| NSF Graduate Research Fellowship | 2017 |
| UC Berkeley Chancellor's Fellowship | 2017 |
| UC Berkeley's EECS Excellence Award | 2017 |
| CRA Outstanding Undergraduate Researcher Award, honorable mention | 2017 |
| Fulton Undergraduate Research Initiative, research award | 2016 |
| IEEE VAST Grand Challenge Award, outstanding comprehensive submission | 2015 |

RESEARCH

School of Computing & AI scai.engineering.asu.edu

July 2024 – Present

Presidential Postdoctoral Scholar, advised by Dr. Ross Maciejewski

Arizona State University

- *In progress:*

- * NSF Future CoRE: *Interactive Graph Queries: Explainable GNN Approaches to Ad-Hoc Queries on Heterogeneous Networks*, w/ Yixuan He¹ et al.
 - Co-PI at 20% effort, \$1M over 3 years.
- * Computer-supported Peer Review: A ReviewerApp User Study, w/ Fan Lei et al.
 - Mentoring ASU undergraduate student in computer science (B.S.) Akshit Jain
- * Interactive Lab Notebooks for Robotics and Physical AI Research, w/ Erick Duarte (M.S.) & Ransalu Senanayake
- * Is the growth of AI/ML conf' submissions overstraining peer review? Seto et al.
- * FlorDB: a Hindsight Logging Database for the AI/ML Lifecycle, w/ Hellerstein et al.
- * NSF TTP-T: *Scalable AI Assisted Review Systems*, w/ Marchant & Winarski²

RISE Lab | EPIC Data Lab rise.cs.berkeley.edu

June 2017 – June 2024

Graduate Researcher, advised by Dr. Joe Hellerstein

University of California, Berkeley

- FlorDB: a hindsight logging database for the machine learning lifecycle.
- ... How Engineers Operationalize Machine Learning, w/ Shreya Shankar et al.
- **Internships:** Amazon Search, Linea Labs (*startup*).

github.com/ucbrise/flor

¹School of Mathematical and Natural Sciences

²Sandra Day O'Connor College of Law

RESEARCH (CONT'D)

VADER Lab vader.lab.asu.edu

January 2015 – May 2017

Undergraduate Researcher, advised by Dr. Ross Maciejewski

Arizona State University

- NSF REU: Visual Analytics Algorithms for Spatiotemporal Analysis.
- Visual Analytics of Crowd Spatiotemporal Data (IEEE VAST Grand Challenge Award).

PEER-REVIEWED PUBLICATIONS

- Your Bookshelf Is a Database: Digitization, Query, and Fair Use in the AI Era** *CIDR 2026 (submitted)*
Erick Duarte, Akshit Jain, Jia Zou, K. Selçuk Candan, Tyson Winarski, Gary Marchant, *Rolando Garcia*.
Conference on Innovative Data Systems Research, 2026.
- Flow with FlorDB: Incremental Context Maintenance for the ML Lifecycle** *CIDR 2025*
Rolando Garcia, Pragya Kallanagoudar, Chithra Anand, Sarah E. Chasins, Erin M. Kerrison, Aditya G. Parameswaran, Joseph M. Hellerstein.
Conference on Innovative Data Systems Research, 2025.
- "We Have No Idea How Models will Behave in Production until Production": How Engineers Operationalize Machine Learning** *CSCW 2024*
Shreya Shankar*, *Rolando Garcia**, Joseph M. Hellerstein, Aditya G. Parameswaran.
ACM Conf' on Computer Supported Cooperative Work and Social Computing 2024.
*Co-first authors. **Honorable Mention: MLOps Community Best Paper Award**
- Quilt: Custom UIs for Linking Unstructured Documents to Structured Datasets** *UIST Demo 2024*
Pragya Kallanagoudar, Chithra Anand, *Rolando Garcia*, Rebecca M. M. Hicke, Aditya G. Parameswaran, Eunice Jun, Sarah E. Chasins. *UIST Adjunct '24: Proceedings of the 37th Annual ACM Symposium on User Interface Software and Technology*, 2024.
- Hindsight Logging for Model Training** *VLDB 2021*
Rolando Garcia, Eric Liu, Vikram Sreekanti, Bobby Yan, Anusha Dandamudi, Joseph E. Gonzalez, Joseph M. Hellerstein, Koushik Sen. *Proceedings of the VLDB Endowment*, 14(4): 682-693, 2021.
- Context: The Missing Piece in the Machine Learning Lifecycle** *KDD CMI 2018*
Rolando Garcia, Vikram Sreekanti, Neeraja Yadwadkar, Daniel Crankshaw, Joseph E. Gonzalez, Joseph M. Hellerstein.
Workshop on Common Model Infrastructure at KDD, 2018.
- A Visual Analytics Framework for Exploring Theme Park Dynamics** *ACM TIIS 2018*
Michael Steptoe, Robert Krüger, *Rolando Garcia*, Xing Liang, Ross Maciejewski.
ACM Transactions on Interactive Intelligent Systems, 2018.
- The State-of-the-Art in Predictive Visual Analytics** *CGF 2017*
Yafeng Lu, *Rolando Garcia*, Brett Hansen, Michael Gleicher, Ross Maciejewski.
Computer Graphics Forum, 2017.

Incremental Context Maintenance for the ML Lifecycle*CIDR 2025*

Rolando Garcia, Pragya Kallanagoudar, Chithra Anand, Sarah E. Chasins, Erin M. Kerrison, Aditya G. Parameswaran, Joseph M. Hellerstein. *Conference on Innovative Data Systems Research*. January 2025.

Amsterdam

How Engineers Operationalize Machine Learning*CSCW 2024*

Shreya Shankar, *Rolando Garcia*, Joseph M. Hellerstein, Aditya G. Parameswaran. *ACM Conf' on Computer Supported Cooperative Work and Social Computing*. November 2024.

Costa Rica

Flow with FlorDB: Agile MLOps without Compromises*Mines Seminar, 2024*

Rolando Garcia. Colorado School of Mines. October 2024.

Golden, CO

Operationalizing Machine Learning: An Interview Study*Flyte, 2022*

Rolando Garcia, Shreya Shankar. December 2022.

Operationalizing Machine Learning: An Interview Study*Inaugural Address, 2022*

Shreya Shankar, *Rolando Garcia*. Berkeley, CA, October 2022.

EPIC, UC Berkeley

Operationalizing Machine Learning: An Interview Study*Canva, 2022*

Shreya Shankar, *Rolando Garcia*. October 2022.

Operationalizing Machine Learning: An Interview Study*MLOps World, 2022*

Shreya Shankar, *Rolando Garcia*. San Francisco Bay Area, October 2022.

San Francisco

FLOR: Managing the Infinite Virtual Metadata of Model Training*Cornell Seminar, 2022*

Rolando Garcia. Cornell University, February 2022.

Hindsight Logging for Model Training*VLDB 2021*

Rolando Garcia, Eric Liu, Vikram Sreekanti, Anusha Dandamudi, Bobby Yan, Joseph Gonzalez, Koushik Sen, Joseph Hellerstein. *International Conference on Very Large Databases*. August 2021.

Copenhagen

Choose What to Log, After you Execute*RISE Retreat 2019*

Rolando Garcia, Eric Liu, Vikram Sreekanti, Anusha Dandamudi, Bobby Yan, Joseph Gonzalez, Koushik Sen, Joseph Hellerstein. Retreat talk to lab sponsors. Monterey, CA. January 2019.

ML in Context: Preserve, Share, and Analyze Experiments with Flor*RISE Camp 2018*

Rolando Garcia, Vikram Sreekanti, Neeraja Yadwadkar, Daniel Crankshaw, Sona Jeswani, Eric Liu, Malhar Patel, Joseph Gonzalez, Joseph Hellerstein. Talk and Tutorial for lab sponsors. Berkeley, CA. October 2018.

Context: The Missing Piece in the Machine Learning Lifecycle*KDD 2018*

Rolando Garcia, Vikram Sreekanti, Neeraja Yadwadkar, Daniel Crankshaw, Joseph Gonzalez, Joseph Hellerstein. *The 24th ACM SIGKDD Intl' Conf*. August 2018.

London

TALKS (CONT'D)

Data Management Challenges in the Machine Learning Lifecycle

Amazon 2018

Palo Alto

Rolando Garcia, Vikram Sreekanti, Daniel Crankshaw, Neeraja Yadwadkar, Sona Jeswani, Eric Liu, Malhar Patel, Joseph Gonzalez, Joseph Hellerstein.
Invited talk at Amazon Search. Palo Alto, CA. April 2018.

Design, Run, and Reproduce Experiments with Jarvis

RISE Retreat 2018

Rolando Garcia, Vikram Sreekanti, Daniel Crankshaw, Neeraja Yadwadkar, Alexey Tumanov, Joseph Gonzalez, Joseph Hellerstein.
Retreat talk to lab sponsors. Monterey, CA. January 2018.

Jarvis: Managing the Machine Learning Lifecycle

Google 2017

Mountain View

Rolando Garcia, Vikram Sreekanti, Daniel Crankshaw, Neeraja Yadwadkar, Alexey Tumanov, Joseph Gonzalez, Joseph Hellerstein.
Invited talk at Google. Mountain View, CA. September 2017.

The State-of-the-Art in Predictive Visual Analytics

EuroVis 2017

Barcelona

Yafeng Lu, *Rolando Garcia*, Brett Hansen, Michael Gleicher, Ross Maciejewski.
19th EG/VGTC Conference on Visualization, Barcelona, Spain. June 2017.

Automatic Design and Optimization of Deep Learning Models

LANS 2016

Rolando Garcia, Randal Olson, Jason Moore.
The Leadership Alliance National Symposium, Stamford, CT. July 2016.

VAST 2015 Grand Challenge – Team VADER/VIS

VAST 2015

Chicago

Michael Steptoe, Robert Krüger, Yifan Zhang, Xing Liang, *Rolando Garcia*, Sagarika Kadambi, Wei Luo, Thomas Ertl, Ross Maciejewski.
IEEE Visual Analytics Science and Technology Conference, Chicago, IL. October 2015.

TEACHING

Introduction to Database Systems (COMPSCI 186/286)

Spring 2018

Graduate Student Instructor, 450 students

University of California, Berkeley

Introduction to Programming Languages (CSE 240)

Fall 2015

Undergraduate Student Instructor, 267 students

Arizona State University, Tempe

Introduction to Ethics (PHI 105)

Fall 2013

Undergraduate Student Instructor, 50 students

Northern Arizona University, Flagstaff

SERVICE

Diversifying Access to Research in Engineering (DARE)

June 2020 – December 2022

Organizer | dare.berkeley.edu

University of California, Berkeley

EECS Graduate Admissions

Fall 2021

Graduate Student Representative | eecs.berkeley.edu

University of California, Berkeley

Data Systems and Foundations Seminar

Fall 2020

Coordinator | dsf.berkeley.edu

University of California, Berkeley