

Aaron J. Elmore

Distributed Systems Lab
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Research Areas

Database as a Service • Multitenant Database Systems • Self-Managed Elastic Systems

Education

- 2014 (est) PHD in Computer Science, University of California Santa Barbara.
Thesis: Elasticity Primitives for Database as a Service.
Advisors: Divyakant Agrawal • Amr El Abbadi
Committee: Divyakant Agrawal, Amr El Abbadi, Xifeng Yan, and Ken Salem.
- 2009 MS in Computer Science, University of Chicago.
- 2002 BS in Electronic Commerce Technologies, DePaul University. Magna Cum Laude.

Grants, Honors Awards

- 2011,2013 SIGMOD Student Travel Grant
- 2013 UCSB Senate Travel Grant
- 2010 Amazon Research Grant, Winter 2011
- 2009 Outstanding Teaching Assistant, UCSB
- 2009–2010 Computer Science Merit Fellowship
- 2000–2001 Top of the Class Honors, DePaul University

Publications

- 2013 **Aaron J. Elmore**, Carlo Curino, Divyakant Agrawal, Amr El Abbadi. "Towards Database Virtualization for Database as a Service", *VLDB* 2013 (Tutorial).
- 2013 **Aaron J. Elmore**, Sudipto Das, Alexander Pucher, Divyakant Agrawal, Amr El Abbadi, Xifeng Yan. "Characterizing Tenant Behavior for Placement and Crisis Mitigation in Multi-tenant DBMSs", *ACM International Conference on Management of Data (SIGMOD)* 2013: 517-528.
- 2012 Stacy Patterson, **Aaron J. Elmore**, Faisal Nawab, Divyakant Agrawal, Amr El Abbadi. "Serializability, not Serial: Concurrency Control and Availability in Multi-Datacenter Datastores", *VLDB* 2012: 1459-1470.
- 2012 **Aaron J. Elmore**, Sudipto Das, Divyakant Agrawal, Amr El Abbadi. "InfoPuzzle: Exploring Group Decision Making in Mobile Peer-to-Peer Databases", *VLDB* 2012: 1998-2001.

- 2012 Divyakant Agrawal, Amr El Abbadi, Beng Chin Ooi, Sudipto Das, **Aaron J. Elmore**. “The evolving landscape of data management in the cloud”, *International Journal of Computational Science and Engineering* 2012.
- 2011 **Aaron J. Elmore**, Sudipto Das, Divyakant Agrawal, Amr El Abbadi. “Zephyr: Live Migration in Shared Nothing Databases for Elastic Cloud Platforms”, *ACM International Conference on Management of Data (SIGMOD)* 2011: 301-312.
- 2011 Divyakant Agrawal, Amr El Abbadi, Sudipto Das, **Aaron J. Elmore**. “Database Scalability, Elasticity, and Autonomy in the Cloud”. *16th International Conference on Database Systems for Advanced Applications (DASFAA)* 2011: 2-15.
- 2011 **Aaron J. Elmore**, Sudipto Das, Divyakant Agrawal, Amr El Abbadi. “Towards an Elastic and Autonomic Multitenant Database”, *6th International Workshop on Networking Meets Databases (NetDB)* 2011.

TALKS

- 2013 ”Self-Managed Elasticity for OLTP and Analytics”, High Performance Transaction Systems (HPTS). Fall 2013.
- 2013 ”Characterizing Tenant Behavior for Placement and Crisis Mitigation in Multitenant DBMSs”, SIGMOD 2013.
- 2012 “MapReduce: Distributed Programming for Commodity Clusters”, University of Southern California Graduate Datamining Course. Spring 2012.
- 2011 ”Towards an Elastic and Autonomic Multitenant Database”, NetDB 2011.
- 2010–2012 “Databases in the Cloud”, University of Chicago Graduate Database Course. Fall 2010, Spring 2010, Fall 2011, Fall 2012.

Professional Experience

- 2014-2015 *Postdoctoral Scholar*
MIT Cambridge, MA
Working with Sam Madden and Michael Stonebreaker on the H-Store and DataHub projects, starting April 2014.
- 2013 *Software Engineering Intern*
TRIFACTA San Francisco, CA
Worked with Joe Hellerstein, Adam Silberstein, and Sean Kandel on tools for interactive data analytics, which resulted in two patents applications.
- 2012 *Research Intern*
MICROSOFT RESEARCH, EXTREME COMPUTING GROUP Redmond, WA
Worked with Phil Bernstein on scale-out performance for a cloud computing programming model.

- 2010 *Software Engineering Intern*
 AMAZON WEB SERVICES Seattle, WA
 Developed an internal, distributed, automated, deployment for monitoring service configurations.
- 2010–Present *Research Assistant*
 NATIONAL CENTER FOR ECOLOGICAL ANALYSIS AND SYNTHESIS (NCEAS) Santa Barbara, CA
 Helped design and develop JEDI, a web enabled spatial information system to encourage collaboration on jellyfish bloom populations between ecologists.
- 2010–Present *Research Assistant*
 DISTRIBUTED SYSTEMS LAB, UCSB Santa Barbara, CA
 Researched large scale, distributed and multitenant database systems.
- 2008–2009 *Research Assistant*
 COMPUTATION INSTITUTE / UNIVERSITY OF CHICAGO Chicago, IL
 Developed GWT web based module for Generalized Labels Over Scientific data Studies (GLOSS), a collaborative data tagging system. Researched bootstrapping based information extraction algorithm for identifying taggable elements based on training data.
- 2007–Present *Chief Architect*
 CUSTOMORE Chicago, IL
 Designed and implemented a pay-per-click (PPC) management and tracking platform.
- 2006–2008 *Software Engineer*
 1SYNC / GS1US Chicago, IL
 Helped lead design and implementation of re-platforming the Universal Product Code (UPC/barcode) registry application. Developed UI modules for extensible data objects for Item Management, a GDSN data pool synchronization platform— with 2.7 million items synchronized between retailers and suppliers, including many Fortune 50 companies.
- 2005–2006 *Software Engineer*
 JC WHITNEY Chicago, IL
 Developed J2EE applications for internal systems and customer facing website, which was in the top 100 E-commerce sites based on revenue. One of three developers responsible for 24/7 support. Led search engine optimization efforts which increased search traffic by 33%.
- 2002–2005 *Software Engineer*
 THE INCREMENTUM GROUP, LLC Chicago, IL
 Lead development for customer service, reporting and billing applications.
- 2000–2002 *Computer Science Tutor*
 DEPAUL UNIVERSITY Chicago, IL
 Tutored undergraduate and graduate students on various CS topics.

Professional Activities

- 2014 ACM SIGMOD Demo PC Member
- 2012–2013 UCSB Computer Science Faculty Recruitment Graduate Representative
- 2010–2011 UCSB Computer Science Graduate Representative President
- 2010–2011 UCSB Computer Science Graduate Admissions Committee Representative
- 2011–2013 External reviewer for ODBASE 2011, VLDB 2012, COMAD 2012-2013, Middleware 2012

2011–2012 Reviewer for Transactions on Computers, Transactions on Storage
2011 Helped organize the NSF Workshop “Science of Cloud” held in March 2011

Teaching Experience

CO-ADVISED UNDERGRADUATES

Alexander Hsu
Alek Zhang

CO-ADVISED MASTERS STUDENTS

Hui Dai
Vaibhav Arora

TEACHING

2013 Co-instructor of CS595 seminar “Recent Trends in Computing Research”
2009–2012 Teaching Assistant for CS20 “Programming Methods”, CS174a “Database Systems”, CS271
“Adv. Topics in Distributed Systems”, CS274 “Adv. Topics in Databases”

References

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Philip Bernstein

Distinguished Scientist
Microsoft Research
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