Bill Howe

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Professional Preparation

Georgia Institute of Technology	Atlanta, GA	BS, Honors, Industrial and Systems Engineering	1999
Portland State University	Portland, OR	PhD, Commendation, Computer Science	2006

Appointments

2014-present	Associate Director, eScience Institute, University of Washington
2014-present	Affiliate Associate Professor, Computer Science and Engineering, University of Washington
2012-2014	Director of Research, Scalable Data Analytics, eScience Institute, University of Washington
2009-2014	Affiliate Assistant Professor, Computer Science and Engineering, University of Washington
2009-2012	Senior Scientist, eScience Institute, University of Washington
2008-2009	Staff Scientist, NSF Science and Technology Center for Coastal Margin Observation and Prediction, Oregon Health & Science University
2006-2008	Senior Research Associate, NSF Science and Technology Center for Coastal Margin Observation and Prediction, Oregon Health & Science University
2001-2006	Graduate Research Assistant, Portland State University
1999-2001	Consultant, Deloitte Consulting, Microsoft, Schlumberger Inc., Siebel Systems.

Products

Products Most Closely Related to the Proposed Project

[1] S. Jain, D. Moritz, B. Howe, and E. Lazowska. Sqlshare: Results from a multi-year sql-as-a-service experiment. In *Proceedings of the Special Interest Group on Management of Data (SIGMOD)*, 2016.

[2] A. Rokem, B. Fiore-Gartland, B. Herman, M. Parker, C. Aragon, B. Hazelton, B. Howe, V. Staneva, A. Arendt, J. Hellerstein, E. Lazowska, S. Stone, A. Tanweer, and J. Vanderplas. Building an urban data science summer program at the university of washington escience institute. In *Proceedings of the Bloomberg Data Science for Good Exchange*, 2015.

[3] K. R. Y. Kwon, M. Balazinska, and B. Howe. Hadoops adolescence: An analysis of hadoop usage in scientific workloads. In *VLDB*, 2013.

[4] M. Shaw, B. Howe, P. Koutris, and D. Suciu. Optimizing large-scale semi-naive datalog evaluation in hadoop. In *Datalog 2.0*, 2012.

[5] Y. Bu, B. Howe, M. Balazinska, and M. Ernst. Haloop: Efficient iterative data processing on large clusters. In *Proc. of International Conf. on Very Large Databases (VLDB)*, 2010.

Other Significant Products

[6] K. Wongsuphasawat, D. Moritz, A. Anand, J. Mackinlay, B. Howe, and J. Heer. Voyager: Exploratory analysis via faceted browsing of visualization recommendations. *Visualization and Computer Graphics, IEEE Transactions on*, 22(1):649–658, 2016.

[7] J. Hyrkas, S. Clayton, F. Ribalet, D. Halperin, E. V. Armbrust, and B. Howe. Scalable clustering algorithms for continuous environmental flow cytometry. *Bioinformatics*, 32(3):417–423, 2016.

[8] S.-H. Bae and B. Howe. Gossipmap: a distributed community detection algorithm for billion-edge directed graphs. In *Proceedings of the International Conference for High Performance Computing, Networking, Storage and Analysis, Supercomputing 2015, Austin, TX, USA, November 15-20, 2015*, pages 27:1–27:12, 2015.

[9] Y. Kwon, M. Balazinska, B. Howe, and J. Rolia. Skew-resistant parallel processing of feature-extracting scientific user-defined functions. In *Proc. of the ACM Symposium on Cloud Computing (SOCC 2010)*, June 2010.

[10] B. Howe and D. Maier. Algebraic manipulation of scientific datasets. In *VLDB '04: Proceedings of the 30th International Conference on Very Large Data Bases*, Toronto, Ontario, CA, 2004.

Synergistic Activities

Organizational Leadership.

- Associate Director, UW eScience Institute (http://escience.washington.edu). I lead all aspects of operations, program development, outreach, and consulting in the sciences
- Co-PI, NSF Western Big Data Regional Hub
- Co-Founder, Urban@UW (http://urban.uw.edu). We work to advance urban scholarship regionally and nationally
- Program Director and Faculty Chair, UW Masters Degree in Data Science. I led curriculum development and organizational design for the new UW Masters Degree in Data Science.

Course development. Designed a coursera MOOC "Introduction to Data Science" with over 200,000 registrants and 20,000 earned certificates; Developed a new Introductory "Data Programming" Course, Summer 2012; New course "Data-Intensive Computing in the Cloud," Spring 2012; Advisory Board, Data Science Certificate, UW Educational Outreach; Advisory Board, Cloud Computing Certificate, UW Educational Outreach; "Scientific Data Management" (2010), University of Washington (with Magdalena Balazinska).

Awards and Honors. Best of VLDB 2004 and 2010 (selected for special issue); currently most-cited papers from VLDB 2010 and SIGMOD 2012; Two Jim Gray Seed Award from Microsoft Research in 2008 and 2010; Departmental disseration award 2007, Portland State University.

Organizing Committee Program Chair, eScience 2016; Co-Chair, DataMASS 2012; Demo Co-chair, SSDBM 2013; Chair, HPCDB 2011/2012; XLDB Organizing Committee, 2011; Co-Chair, Workshop on Array Databases, 2011 (with Peter Baumann); Registration Chair, SSDBM 2011.

Reviewer. Reviewer, PVLDB, 2012-2013; Program Committee, LDAV 2013; Program Committee, ScienceCloud 2012; Reviewer, VLDB Journal, 2011; Program Committee, EDBT 2011; Demo Program Committee, SIGMOD 2011; Registration Chair, SSDBM 2011. Program Committee Program Committee, SSDBM 2010. Reviewer, Journal of Parallel and Distributed Computing, May 2010. Reviewer, VLDB Journal, 2007