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Professor Margo Seltzer

Correspondence language: English

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The primary information is denoted by (*)

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NSERC CRSNG

Canadian Common CV commun canadien

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Professor Margo Seltzer

Language Skills

Language	Read	Write	Speak	Understand	Peer Review
English	Yes	Yes	Yes	Yes	Yes

Degrees

- 1992/12 — Doctorate, Computer Science, University of California, Berkeley
  Supervisors: Michael Stonebraker, 1988/1 - 1992/12
- 1983/6 — Bachelor's, Applied Mathematics, Harvard University

Recognitions

2019/7 — USENIX Lifetime Achievement Award
USENIX
Prize / Award
Margo Seltzer received the 2019 award in recognition of her research into experimental file and storage systems, her development of new storage paradigms such as provenance, her software contributions, and her dedication to and steering of the USENIX community and its organization.

2019/2 — Elected to the (US) National Academy of Engineering
(US) National Academy of Engineering
Prize / Award
Elected to the (US) National Academy of Engineering

2017/2 — CRA-E Undergraduate Research Mentoring Award
Computing Research Association
Prize / Award
The CRA-E Undergraduate Research Faculty Mentoring Award recognizes individual faculty members who have provided exceptional mentorship, undergraduate research experiences and, in parallel, guidance on admission and matriculation of these students to research-focused graduate programs in computing.

User Profile

Research Specialization Keywords: Computer systems, Data provenance, Operating systems, Database systems, Transaction processing

Employment

2018/9	Canada 150 Research Chair in Computer Systems and Cheriton Family Chair in Computer Science Computer Science, University of British Columbia Full-time, Professor Tenure Status: Tenure
2017/7 - 2018/12	Instructor Online Business Analytics Program, Harvard Business School Part-time, Term, Professor Tenure Status: Tenure Developed and delivered online course materials and weekly online classes.
2017/7 - 2018/8	Visiting Professor Computer Science, Harvard Business School Full-time Tenure Status: Tenure
2006/3 - 2018/8	Architect Oracle Labs, Oracle Corporation
2000/7 - 2018/8	Herchel Smith Professor of Computer Science School of Engineering and Applied Sciences, Computer Science, Harvard University Full-time, Professor Tenure Status: Tenure
2005/9 - 2010/9	Harvard College Professor Computer Science, Harvard University Full-time Tenure Status: Tenure
2002/9 - 2006/2	Associate Dean Computer Science and Engineering, Harvard University Full-time Tenure Status: Tenure Responsible for overall administration of Computer Science and Electrical Engineering including curricular planning, Jr. faculty recruiting and mentoring, departmental communication, and Industrial outreach
1996/6 - 2006/2	Chief Technical Officer Sleepycat Software
2000/7 - 2004/9	Gordon McKay Professor Computer Science, Harvard University Full-time Tenure Status: Tenure
1997/7 - 2000/6	Associate Professor Division of Engineering and Applied Sciences, Computer Science, Harvard University Full-time, Associate Professor Tenure Status: Tenure Track
1993/1 - 1997/6	Assistant Professor Division of Engineering and Applied Sciences, Computer Science, Harvard University Full-time, Assistant Professor Tenure Status: Tenure Track

Research Funding History

Awarded [n=7]

2018/9 - 2025/8
Principal Investigator

Canada 150 Research Chair in Computer System, Research Chair

Funding Sources:
Natural Sciences and Engineering Research Council of Canada (NSERC)
Canada 150 Research Chairs
Total Funding - 7,000,000
Portion of Funding Received - 1,750,000
Funding Competitive?: Yes

2019/11 - 2020/10
Principal Investigator

Graph Storage and Analytics: From the Bottom Up

Funding Sources:
Huawei
Total Funding - 131,876
Portion of Funding Received - 131,876
Funding Competitive?: Yes

2018/9 - 2020/8
Co-applicant

Increasing Scientific Dataset Quality Through Reproducibility and Curation Tools and Targeted Services in Dataverse Repositories, Grant

Funding Sources:
Sloan Foundation
Total Funding - 499,697
Portion of Funding Received - 246,988
Funding Competitive?: Yes

2014/8 - 2020/7
Principal Investigator

XPS: FULL: CCA: Collaborative Research: Automatically Scalable Computation, Grant

Funding Sources:
National Science Foundation (USA)
Exploiting Parallelism and Scalability (XPS)
Total Funding - 525,000
Portion of Funding Received - 525,000
Funding Competitive?: Yes
National Science Foundation (USA)
Exploiting Parallelism and Scalability (XPS)
Total Funding - 115,000
Portion of Funding Received - 115,000
Funding Competitive?: Yes

Co-investigator : Ajay Joshi; David Brooks; Jonathan Appavoo; Ryan Adams; Steve Homer

2015/6 - 2020/5
Principal Investigator

CISE-Provenance : SI2-SSI: Collaborative Research: Bringing End-to-End Provenance to Scientists, Grant

Funding Sources:
National Science Foundation (USA)
Software Infrastructure for Sustained Innovation
Total Funding - 1,422,728
Portion of Funding Received - 1,125,824
Funding Competitive?: Yes

Co-investigator : Aaron Ellison; Barbara Lerner; Emery Boose

2015/11 - 2019/11
Principal Investigator

PRINCESS : Probabilistic Representation of Intent Commitments to Ensure Software Survival (PRINCESS), Contract

Funding Sources:
Defense Advanced Research Project Agency (The)
BRASS
Total Funding - 1,380,154
Portion of Funding Received - 698,023
Funding Competitive?: Yes

Principal Investigator : Stephen Chong

2018/1 - 2018/12
Co-investigator

Towards a FAIR Digital Ecosystem in the Cloud, Grant

Funding Sources:
National Institutes of Health (NIH) (USA)
Total Funding - 647,221
Portion of Funding Received - 647,221
Funding Competitive?: Yes

Principal Investigator : Merce Crosas

Completed [n=4]

2017/9 - 2018/8
Principal Investigator

New Approaches for Ranking in Machine Learning, Grant

Funding Sources:
Duke University (USA)
Subcontract from IIS-1053407
Total Funding - 49,767
Portion of Funding Received - 49,767
Funding Competitive?: No

Principal Investigator : Cynthia Rudin

2015/1 - 2017/12
Principal Investigator

Citation++: Data citation, provenance, and documentation, Grant

Funding Sources:
National Science Foundation (USA)
Total Funding - 300,000
Portion of Funding Received - 288,963
Funding Competitive?: Yes

Principal Investigator : Gary King; Merce Crosas

2013/10 - 2017/9
Principal Investigator

CSR: Medium: Collaborative Research: Workload-Aware Storage Architectures for Optimal Performance and Energy Efficiency, Grant

Funding Sources:
National Science Foundation (USA)
Computer Systems Research
Total Funding - 306,077
Portion of Funding Received - 306,077
Funding Competitive?: Yes

Principal Investigator : Erez Zadok; Geoff Keunning

2009/9 - 2013/9
Co-investigator

Analyzing Complex Healthcare Data to Determine Causality of Observed Drug Effects, Grant

Funding Sources:
National Institutes of Health (NIH) (USA)
Total Funding - 213,491
Portion of Funding Received - 213,491
Funding Competitive?: Yes

Co-investigator : Jeremy Rassen;

Principal Investigator : Sebastien Schneeweis

Student/Postdoctoral Supervision

Master's Thesis [n=5]

2019/9 - 2021/5 Co-Supervisor	Junfeng Xu (In Progress) , UBC Student Degree Expected Date: 2021/5 Thesis/Project Title: N/A Present Position: MS Student, UBC
2019/9 - 2021/5 Principal Supervisor	Bingyao Wang (In Progress) , UBC Student Degree Expected Date: 2021/5 Thesis/Project Title: NA Present Position: MS Student, UBC
2019/9 - 2021/5 Principal Supervisor	Michael Kim (In Progress) , UBC Student Degree Expected Date: 2021/5 Thesis/Project Title: N/A Present Position: MS Student, UBC
2018/9 - 2020/5 Academic Advisor	Zixuan Yin (In Progress) , The University of British Columbia Thesis/Project Title: Blockchain as an engine for distributed consensus Present Position: MSc Student
2018/5 - 2020/9 Co-Supervisor	Christopher Chen (In Progress) , The University of British Columbia Student Degree Expected Date: 2020/4 Thesis/Project Title: Fullstack program synthesis Present Position: MSc Student

Doctorate [n=12]

2019/9 - 2025/5 Principal Supervisor	Joseph Wonsil (In Progress) , UBC Student Degree Expected Date: 2025/5 Thesis/Project Title: Increasing programmer productivity with Provenance. Present Position: Ph.D. Student, UBC
2018/11 - 2022/5 Co-Supervisor	Surbhi Palande (In Progress) , UBC Student Degree Expected Date: 2022/5 Thesis/Project Title: File system support for Shingled Magnetic Recording Drives Present Position: Ph.D. Student, UBC
2018/9 - 2020/5 Principal Supervisor	Tony Mason (In Progress) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Relationships as first-class entities in file systems Present Position: PhD Student
2018/5 - 2020/9 Co-Supervisor	Swati Goswami (In Progress) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Split-merge packet processing Present Position: PhD Student
2016/9 - 2020/5 Co-Supervisor	Crystal Hu (In Progress) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Operating system synthesis Present Position: PhD Student

2016/9 - 2020/5 Co-Supervisor	Michael Han (In Progress) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Provenance-based security applications Present Position: PhD Student
2015/9 - 2020/5 Co-Supervisor	David Holland (In Progress) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Operating System Synthesis Present Position: PhD Student
2014/9 - 2020/5 Principal Supervisor	Robert Bowden (In Progress) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: ML-based Program Repair Present Position: PhD Student
2011/9 - 2014/8 Principal Supervisor	Elaine Angelino (Completed) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Accelerating Markov chain Monte Carlo via parallel predictive prefetching Present Position: Independent
2008/9 - 2017/8 Principal Supervisor	Daniel Margo (Completed) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Sorting shapes the performance of graph-structured systems Present Position: Member of the Technical Staff, Google
2008/9 - 2015/3 Principal Supervisor	Peter Macko (Completed) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: LLAMA: A Persistent, Mutable Representation for Graphs Present Position: Member of the Technical Staff, Netapp
2004/9 - 2014/5 Principal Supervisor	Uri Braun (Completed) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Limiting Disclosure in Annotated Graphs Present Position: CEO, Sybil Security

Post-doctorate [n=4]

2017/9 - 2020/7 Co-Supervisor	Berk Ustun, Harvard School of Engineering and Applied Sciences Thesis/Project Title: Optimal Linear Models Present Position: Post doctoral scholar, Harvard Center for Research on Computation and Society
2016/9 - 2019/9 Co-Supervisor	Ming Kawaguchi (In Progress) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Domain specific languages for operating system code synthesis Present Position: Post doctoral researcher
2016/9 - 2017/12 Principal Supervisor	Thomas Pasquier (Completed) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Whole system Provenance Present Position: Lecturer, University of Bristol
2014/7 - 2016/6 Principal Supervisor	Jacob Whitehill (Completed) , Harvard School of Engineering and Applied Sciences Thesis/Project Title: Learning at Scale Present Position: Professor, Worcester Polytechnic Institute

Event Administration

2019/11 - 2020/4	Program Co-Chair, European Conference on Computer Systems (Eurosys 2020), Conference, 2020/4 - 2020/4
2018/8 - 2019/8	Co-organizer, Cognitive Defense (CogD): Detecting and Defending Against Influence Operations” - #1, Workshop, 2018/10 - 2018/10
2018/8 - 2019/8	Co-Organizer, Cognitive Defense (CogD): Detecting and Defending Against Influence Operations” --Workshop #3, Workshop, 2019/7 - 2019/7

2018/8 - 2019/8	Co-Organizer, Cognitive Defense (CogD): Detecting and Defending Against Influence Operations" - #2, Workshop, 2019/2 - 2019/2
2017/8 - 2018/8	Co-Organizer, TAMALE: Toolkit of Algorithms for Machine Learning, Workshop, 2018/4 - 2018/4
2017/8 - 2018/8	Co-Organizer, SATIATE: Symposium About Technology in Agriculturally Troubled Environments, Workshop, 2018/3 - 2018/3

Editorial Activities

2018/3 - 2020/8	Computer Science Co-Editor, Harvard Data Science Review, Journal

Organizational Review Activities

2018/4 - 2018/6	Member of Visiting Committee, Harvard Business School Participated in two-day review of the Harvard Business School and assisted in preparation of report to the President.
2015/11 - 2015/11	Member, Ecole Polytechnique de federal Lausanne (EPFL) Visiting committee of the School of Computer and Communication Sciences (IC School).

International Collaboration Activities

2018/9 - 2021/5	Advisor, United States I continue to advise four Ph.D. students at Harvard University.
2018/1 - 2020/12	Researcher, United Kingdom I collaborate with Robert Watson at Cambridge University and Thomas Pasquier at the University of Bristol in the area of data provenance.
2016/1 - 2019/12	Researcher, United States I conduct research on interpretable machine learning with Cynthia Rudin at Duke University, students at Harvard University, and Elaine Angelino from Berkeley.
2017/10 - 2018/10	Organizer, Germany With colleagues from New Zealand (David Ayers) and the UK (Jatindra Singh and Christopher Millard), I co-organized a Dagstuhl Workshop on accountable systems.

Committee Memberships

2017/8 - 2020/8	Committee Member, US DARPA Information Science and Technology Study Group (ISAT)., US Defense Advanced Research Project Agency (DARPA) This groups meets three times per year and holds workshops to identify important areas for federal research.
2012/9 - 2019/12	Co-chair, Boston University Academy Head of School Advisory Board, Boston University
2016/9 - 2019/9	Committee Member, US National Academies Computer Science and Telecommunications Board (CSTB), US Natoinal Academies This group provides technical expertise to the National Academies and Federal Agencies.
2019/5 - 2019/5	Committee Member, Program Committee for Hot Topics on Operating Systems, Hot Topics on Operating Systems (HotOS)

2017/11 - 2018/11	Committee Member, Selection committee for the CRA Outstanding Undergraduate Award, Computing Research Association This committee selects the winners of the CRA Outstanding Undergraduate Research Award competition.
2002/2 - 2018/2	Committee Member, FAST Steering Committee, USENIX Association FAST is the premier storage and file system conference; the steering committee selects chairs and ensures continuity year over year.
2012/1 - 2017/12	Committee Member, NSF PRObE Steering Committee, NSF PRObE
2014/7 - 2017/7	Committee Member, Board of Directors, Computing Research Associatoin I served as the USENIX Representative to the CRA board.
2011/6 - 2017/2	Committee Member, Sloan Research Fellow Computer Science Selection Committee, Sloan Foundation A committee of three selects the winners of the annual Sloan Research Fellowships. I chaired this committee my last year on the committee.
2009/9 - 2016/9	Committee Member, Steering Committee for the USENIX Workshop on Theory and Practice of Provenance, USENIX Association
2012/7 - 2014/7	Chair, USENIX Board of Directors, USENIX Association I served as Board President of the USENIX Association
2010/6 - 2013/6	Committee Member, Computing Community Consortium, Computing Research Association I served as a member at large on the CCC and as a member of the executive committee in 2012-2013.

Other Memberships

1994/9 - 2019/10	Member, Association for Computing Machinery (ACM)
1990/1 - 2019/1	Member, USENIX Association

Presentations

1. (2019). Distinguished Lecture. An NVM Carol. Carleton College, Minnesota, United States
   Invited?: Yes, Keynote?: No
2. (2019). An NVM Carol: Visions of NVM Past, Present, and Future. Alumni/Industry Lecture, California, United States
   Invited?: Yes, Keynote?: No
3. (2019). Invited Lecture. Automatically Scalable Computation. EPFL, Lausanne, Switzerland
   Invited?: Yes, Keynote?: No
4. (2019). Invited speaker. Systems Research - Construed Broadly. Bristol University Cybersecurity Colloquium, Bristol, United Kingdom
   Invited?: Yes, Keynote?: No
5. (2019). Distinguished Lecture. Systems Research - Construed Broadly. University of Waterloo, Ontario, Canada
   Invited?: Yes, Keynote?: No
6. (2019). Distinguished Lecture. Systems Research - Construed Broadly. Joint Duke University, University of North Carolina/Chapel Hill, NC State, North Carolina, United States
   Invited?: Yes, Keynote?: No

7. (2019). Keynote. More than Storage. Mass Storage Systems and Technology(MSST), Santa Clara, United States
   Invited?: Yes, Keynote?: Yes
8. Marie-Francoise, Roy Jessica Carter Anna Vasilchenko Anna Wienhard Fernando Seabra Chirigati. (2019). Implicit Bias Contributions to the Gender Gap in Science. Heidelberg Laureate Forum, Heidelberg, United States
   Main Audience: Researcher
   Invited?: Yes, Keynote?: No
9. (2018). Keynote. An NVM Carol. International Conference on Data Engineering, Paris, France
   Main Audience: Researcher
   Invited?: Yes, Keynote?: Yes
10. (2018). Flipped on Teaching. Harvard Club of Rochester Annual Meeting, Rochester, United States
    Main Audience: General Public
    Invited?: Yes, Keynote?: Yes
11. (2018). Distinguished Lecture. Systems Research - Construed Broadly. University of Washington, Washington, United States
    Invited?: Yes, Keynote?: No
12. (2018). Guest Lecture. An NVM Carol. University of Santa Cruz Data Management course, Santa Cruz, United States
    Invited?: Yes, Keynote?: No
13. (2018). Automatically Scalable Computation. DE Shaw Seminar, New York, United States
    Main Audience: Researcher
    Invited?: Yes, Keynote?: No
14. (2018). An NVM Carol. UBC Computer Science 50th Anniversary Celebration, Vancouver, Canada
    Main Audience: General Public
    Invited?: Yes, Keynote?: No
15. (2018). Distinguished Lecture. Automatically Scalable Computation. Johns Hopkins University, Maryland, United States
    Invited?: Yes, Keynote?: No
16. (2018). Keynote. Automatically Scalable Computing. Israeli Systems Research Conference (SYSTOR), Haifa, Israel
    Main Audience: Researcher
    Invited?: Yes, Keynote?: Yes
17. (2017). Berkeley DB: The Good, The Bad, and the Ugly. Workshop on Failed Aspirations in Database Systems (FADS), Munich, Germany
    Main Audience: Researcher
    Invited?: Yes, Keynote?: No
18. (2017). Keynote. Automatically Scalable Computation. CodeMESH, London, United Kingdom
    Main Audience: Researcher
    Invited?: Yes, Keynote?: Yes
19. (2017). Distinguished Lecture Series. Automatically Scalable Computation. Northwestern Computer Science, Evanston, United States
    Main Audience: Researcher
    Invited?: Yes, Keynote?: No
20. (2017). Data Provenance: From Theory to Practice. Monthly Meeting of the IEEE Computer Society, Cambridge, United States
    Main Audience: Knowledge User
    Invited?: Yes, Keynote?: No

21. (2016). Automatically Scalable Computation. 2Sigma Distinguished Lecture Series, New York, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

22. (2016). Careers in Academia. Women Engineers Code (WeCode), Cambridge, United States
Main Audience: General Public
Invited?: Yes, Keynote?: No

23. Mark Miller, David Mazières, Yuanyuan Zhou. (2015). Is achieving security a hopeless quest?. SOSP History Day, Monterey, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: No

24. (2015). Automatically Scalable Computation. International Conference on Super Computing, Newport Beach, United States
Main Audience: Researcher
Invited?: Yes, Keynote?: Yes

25. Jonathan Zittrain, Yochai Benkler, Jospeh Nai, Sophia Roosth. (2015). The New Cyber Infrastructure. Annual Meeting of the World Economic Forum, Davos, Switzerland
Main Audience: General Public
Invited?: Yes, Keynote?: No

Publications

Journal Articles

1. Pasquier, T., Singh, J., Powles, J., Eyers, D., Seltzer, M., Bacon, J. (2018). Data Provenance to Audit Compliance with Privacy Policy in the Internet of Things. Journal of Personal and Ubiquitous Computing. 22(2): 333-344.
Published
Refereed?: Yes

2. Rao, M.*, Bacon, D.F., Parkes, D, Seltzer, M. (2018). Incentivizing Deep Fixes in Software Economics. IEEE Transactions on Software Engineering. : 21 pages.
Published
Refereed?: Yes

3. Pasquier, T., Lau, M, Han*, X, Fong, E., Lerner, B., Boose, E, Crosas, M., Ellison, A., Seltzer,M. (2018). Sharing and Preserving Computations Analysis for Posterity with Encapsulator. IEEE Computing in Science and Engineering. 20(4): 111.
Published
Refereed?: Yes

4. Angelino, E., Larus-Stone*, N, Alabi, D.*, Seltzer, M., Rudin, C. (2018). Learning Certifiably Optimal Rule Lists for Categorical Data. Journal of Machine Learning Research. 18(234): 1-78.
Published
Refereed?: Yes

5. Pasquier, T., Lau, M., Trisovic, A., Boose, E., Couturier, B., Crosas, M., Ellison, A., Gibson, V., Jones, C., Seltzer, M. (2017). If these data could talk. Nature Scientific Data. 18: 5 pages.
Published
Refereed?: Yes

6. Daniel Margo*, Margo Seltzer. (2015). A Scalable Distributed Graph Partitioner. Proceedings of the VLDB Endowment. 8(12): 1478-1489.
   Published
   Refereed?: Yes

7. Carata, L., Akoush, S. Balakrishynan, N., Bytheway, T., Sohan, R., Seltzer, M., Hopper, A. (2014). A Primer on Provenance. Communications of the ACM 57. 5: 52-60.
   Published
   Refereed?: Yes

Reports

1. David A. Holland*, Jinngmei Hu*, Ming Kawaguchi, Eric Lu*, Stephen Chong, Margo Seltzer. (2019). Aquarium: Cassiopea and Alewife Languages. 20. arXiv.

2. Peter Kraft*, Amos Waterland*, Daniel Y Fu*, Anitha Gollamudi**, Shai Szulanski*, Margo Seltzer. (2018). Automatic Parallelization of Sequential Programs. 12. arXiv.

3. Hongyu Yang**, Cynthia Rudin, Margo Seltzer. (2017). Scalable Bayesian Rule Lists. 31. arXiv.

Conference Publications

1. Jingmei Hu*, Jiwon Joung*, Maia Jacobs, Krzysztof Gajos, Margo Seltzer. (2020). Improving Data Scientist Efficiency with Provenance. Proceedings of the International Conference on Software Engineering. International Conference on Software Engineering, Seoul, Korea, Democratic People's Republic of
   Paper
   Submitted
   Refereed?: Yes, Invited?: No

2. Xueyuan (Michael) Han*, Thomas Pasquier, Adam Bates, Robert N. M. Watson, James Mickens, Margo Seltzer. (2020). Babar: Revisiting Host-Based Intrusion Detection in the Age of Data Provenance. Network and Distributed System Security Symposium (NDSS),
   Paper
   Submitted
   Refereed?: Yes, Invited?: No

3. Xueyuan Han*, Xiao Yu, Thomas Pasquier, James Mickens, Margo Seltzer. (2020). SIGL: Securing Software Installations Through Deep Graph Learning. Network and Distributed Systems Security Symposium, Seoul, Korea, Democratic People's Republic of
   Paper
   Submitted
   Refereed?: Yes, Invited?: No

4. Sheung Chi Chan**, James Cheney, Pramod Bhatotia, Thomas Pasquier, Ashish Gehani, Hassaan Irshad, Lucian Carata, Margo Seltzer. (2019). ProvMark: A provenance expressiveness benchmarking system. Proceedings of the 20th ACM/IFIP International Middleware Conference (Middleware'19). 20th ACM/IFIP International Middleware Conference (Middleware'19),
   Paper
   Accepted
   Refereed?: Yes, Invited?: No

5. Pasquier, T., Eyers, D., Seltzer, M.,. (2019). Visionpaper – From Here to Provtopia. Proceedings of the 2019 Poly Workshop (Towards Polystores that manage multiple Databases, Privacy, Security, and/or Policy Issues for Heterogeneous Data),
   Paper
   Published
   Refereed?: Yes, Invited?: No

6. Jingmei Hu*, Eric Lu*, David Holland*, Ming Kawaguchi, Stephen Chong, Margo Seltzer. (2019). Trials and Tribulations in Synthesizing Operating Systems. Proceedings of the Workshop on Programming Languages and Operating Systems. Workshop on Programming Languages and Operating Systems,
Paper
Accepted
Refereed?: Yes, Invited?: No

7. Xiyang Hu**, Cynthia Rudin, Margo Seltzer. (2019). Optimal Sparse Decision Trees (spotlight paper; top 2.5%). Proceedings of the Conference on Neural Information Processing Systems (NeurIPS). Conference on Neural Information Processing Systems (NeurIPS), Vancouver,
Conference Date: 2019/12
Paper
Accepted
Refereed?: Yes, Invited?: No

8. Pasquier, T, Han, X*, Moyer, T., Bates, A., Hermant, O, Eyers, D., Bacon, J., Seltzer, M. (2018). Runtime Analysis of Whole-System Provenance. Proceedings of the 2018 Conference on Computer and Communications Security (CCS'18). Conference on Computer and Communications Security (CCS'18), Toronto, Canada (1601-1616)
Conference Date: 2018/10
Paper
Published
Refereed?: Yes, Invited?: Yes

9. Han, X*, Pasquier, T., Seltzer, M. (2018). Provenance-based Intrusion Detection: Opportunities and Challenges. Proceedings of the Workshop on the Theory and Practice of Provenance (TAPP 2018). Workshop on the Theory and Practice of Provenance (TAPP 2018), London, United Kingdom (4 pages)
Conference Date: 2018/7
Paper
Published
Refereed?: Yes, Invited?: Yes

10. Huang, Y**, Pavlovic, M.**, Marathe, V., Seltzer, M., Harris, T., Byan, S. (2018). Closing the Performance Gap Between Volatile and Persistent Key-Value Stores Using Cross-Referencing Logs. Proceedings of the 2018 USENIX Annual Technical Conference. 2018 USENIX Annual Technical Conference, Boston, United States (967-979)
Conference Date: 2018/6
Paper
Published
Refereed?: Yes, Invited?: No

11. Angelino, E., Larus-Stone*, N, Alabi, D.*, Seltzer, M, Rudin, C. (2017). Learning Certifiably Optimal Rule Lists for Categorical Data. Proceedings of the 23rd ACM Conference on Knowledge Discovery and Data Mining (KDD2017). 23rd ACM Conference on Knowledge Discovery and Data Mining (KDD2017), Halifax, Canada (35-44)
Conference Date: 2017/8
Paper
Published
Refereed?: Yes, Invited?: No

12. Yang, H.**, Rudin, C., Seltzer, M. (2017). Scalable Bayesian Rule Lists. Proceedings of the International Conference on Machine Learning - Volume 70. International Conference on Machine Learning (ICML 2017), Sydney, Australia (3921-3930)
Conference Date: 2017/8
Paper
Published
Refereed?: Yes, Invited?: No

13. Xueyuan Han*, Thomas Pasquier, Mark Goldstein*, Margo Seltzer. (2017). FRAPpuccino:Fault-detection through Runtime Analysis of Provenance. Workshop on Hot Topics in Cloud Computing (HotCloud 17), Santa Clara, United States
Conference Date: 2017/7
Paper
Published
Refereed?: Yes, Invited?: No

14. Thomas Pasquier, Xueyuan Han*, Mark Goldstein*, Thomas Moyer, David Eyers, Margo Seltzer, Jean Bacon. (2017). Practical Whole-System Provenance Capture. Proceedings of the 2017 Symposium on Cloud Computing. Symposium on Cloud Computing, Santa Clara, United States (405-418)
Conference Date: 2017/7
Paper
Published
Refereed?: Yes, Invited?: No

15. Virendra Marathe, Margo Seltzer, Steve Byan, Tim Harris. (2017). Persistent Memcached:Bringing Legacy Code to Byte-Addressable Persistent Memory. Workshop on Hot Topics in Storage and File Systems (HotStorage 17), Santa Clara, United States
Conference Date: 2015/7
Paper
Published
Refereed?: Yes, Invited?: No

16. Jacob Whitehill, Margo Seltzer. (2017). A Crowdsourcing Approach to Collecting Tutorial Videos -- Toward Personalized Learning-at-Scale. Proceedings of the Fourth (2017) ACM Conference on Learning@ Scale, Cambridge, United States (157-160)
Conference Date: 2015/4
Paper
Published
Refereed?: Yes, Invited?: No

17. Schuyler Eldridge*, Jonathan Appavoo, Amos Waterland*, Margo Seltzer. (2015). Towards General-Purpose Neural Network Computing. International Conference on Parallel Architectures and Compilation Techniques (PACT), Petrozavodsk, Russian Federation (99-112)
Conference Date: 2015/9
Paper
Published
Refereed?: Yes, Invited?: No

18. Balakrishnan, N., Bytheway, T., Carata, L., Chick, O., Snee, J., Akoush, S., Sohan, R., Seltzer, M., Hopper, A. (2015). Recent Advances in Computer Architecture: The Opportunities and Challenges for Provenance. Workshop on the Theory and Practice of Provenance (TaPP), Edinburgh, United Kingdom
Conference Date: 2015/7
Paper
Published
Refereed?: Yes, Invited?: No

19. Macko, P.*, Margo, D.*, Marathe, V., Seltzer, M. (2015). LLAMA: Efficient Graph Analytics Using Large Multiversioned Arrays. 31st IEEE International Conference on Data Engineering (ICDE 2015), Seoul, Korea, Republic of (363-374)
Conference Date: 2015/4
Paper
Published
Refereed?: Yes, Invited?: No

20. Appavoo, J., Waterland, A.*, Eldridge, S.**, Zhao, K.**, Joshi, A., Homer, S., Seltzer, M. (2014). Programmable Smart Machines: A Hybrid Neuromorphic Approach to General Purpose Computation. Proceedings of Neuromorphic Architectures (NeuroArch) Workshop at 41th International Symposium on Computer Architecture (ISCA-41),
Paper
Published
Refereed?: Yes, Invited?: No

21. Malvika Rao**, David Parkes, Margo Seltzer, David Bacon. (2014). A Framework for Incentivizing Deep Fixes. WIT-EC. Workshop in Incentives and Trust in E-Commerce, Quebec City, Canada
Conference Date: 2014/7
Paper
Published
Refereed?: Yes, Invited?: No

22. Elaine Angelino*, Eddie Kohler, Amos Waterland*, Margo Seltzer, Ryan Adams. (2014). Accelerating MCMC via parallelpredictive prefetching. Conference on Uncertainty in Artificial Intelligence, Quebec City, Canada
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23. Amos Waterland*, Elaine Angelino*, Ryan Adams, Jonathan Appavoo, Margo Seltzer. (2014). ASC: Automatically Scalable Computation. ASPLOS. Conference on Architecture Support for Programming Languages and Operating Systems, Salt Lake City, United States
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Intellectual Property

Patents

1. Committing copy-on-write transaction with a persist barrier for a persistent object including payload references. United States. 10229012.
Patent Status: Granted/Issued
Year Issued: 2019
Inventors: Virendra J Marathe, Steve Byan, Margo I Seltzer, Achin Mishra, Amee Trivedi

2. Efficient memory management for persistent memory. United States. 15675528.
Patent Status: Granted/Issued
Year Issued: 2018
Inventors: Virendra J Marathe, Steve Byan, Margo I Seltzer, Achin Mishra, Amee Trivedi

3. Efficient Copy-on-Write Transactions on Persistent Memory. United States. 15675533.
Patent Status: Granted/Issued
Year Issued: 2018
Inventors: Virendra J Marathe, Steve Byan, Margo I Seltzer, Achin Mishra, Amee Trivedi

4. Data Structure Store in Persistent Memory. United States. 15489544.
Patent Status: Granted/Issued
Year Issued: 2018
Inventors: Virendra J Marathe, Margo I Seltzer, Steve Byan, Yihe Huang**

5. Persistent memory transactions with undo logging. United States. 15675526.
   Patent Status: Granted/Issued
   Year Issued: 2018
   Inventors: Virendra J Marathe, Margo I Seltzer, Steve Byan
6. Graph Processing using a Mutable Multilevel Graph Representation. United States. 9734607.
   Patent Status: Granted/Issued
   Year Issued: 2017
   Inventors: Peter Macko*, Virendra Marathe, Margo Seltzer