

Andy Pavlo

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Education

Ph.D., Computer Science Brown University	Summer 2013 <i>Providence, RI USA</i>
M.Sc., Computer Science Brown University	Spring 2009 <i>Providence, RI USA</i>
M.Sc., Computer Science Rochester Institute of Technology	Spring 2006 <i>Rochester, NY USA</i>
B.Sc. with Honors, Computer Science Rochester Institute of Technology	Spring 2005 <i>Rochester, NY USA</i>

Appointments

Associate Professor with Indefinite Tenure Carnegie Mellon University, Department of Computer Science	July 2022 – present <i>Pittsburgh, PA USA</i>
Associate Professor Carnegie Mellon University, Department of Computer Science	July 2019 – June 2022 <i>Pittsburgh, PA USA</i>
Assistant Professor Carnegie Mellon University, Department of Computer Science	September 2013 – June 2019 <i>Pittsburgh, PA USA</i>

Professional Experience

Advisory Board Voltron Data, Inc.	January 2021 – present <i>San Francisco, CA USA</i>
Co-Founder and CEO OtterTune, Inc.	May 2020 – August 2024 <i>Pittsburgh, PA USA</i>
Advisory Board Fauna, Inc.	April 2019 – April 2021 <i>San Francisco, CA USA</i>
Advisory Board Splice Machine, Inc.	November 2018 – August 2021 <i>San Francisco, CA USA</i>
Expert Witness Much Shelist, P.C.	May 2014 – May 2016 <i>Chicago, IL USA</i>
Research Assistant Brown University, Department of Computer Science	September 2007 – August 2013 <i>Providence, RI USA</i>
Non-Testifying Technical Expert Choate, Hall & Stewart, LLP.	June 2009 – November 2011 <i>Boston, MA USA</i>
Research Intern Vertica, Inc.	June 2008 – August 2008 <i>Billerica, MA USA</i>
Systems Programmer – Condor Project University of Wisconsin–Madison, Department of Computer Sciences	September 2005 – August 2007 <i>Madison, WI USA</i>

Software Developer
PAID, Inc.

March 1999 – December 2004
Owings Mills, MD USA

Teaching Experience

- **Advanced Database Systems** (Carnegie Mellon University, 15-721) – Spring 2024
- **Intro to Database Systems** (Carnegie Mellon University, 15-445/645) – Fall 2023
- **Advanced Database Systems** (Carnegie Mellon University, 15-721) – Spring 2023
- **Intro to Database Systems** (Carnegie Mellon University, 15-445/645) – Fall 2022
- **Special Topics: Self-Driving Database Systems** (Carnegie Mellon University, 15-799) – Spring 2022
- **Intro to Database Systems** (Carnegie Mellon University, 15-445/645) – Fall 2020
- **Advanced Database Systems** (Carnegie Mellon University, 15-721) – Spring 2020
- **Intro to Database Systems** (Carnegie Mellon University, 15-445/645) – Fall 2019
- **Advanced Database Systems** (Carnegie Mellon University, 15-721) – Spring 2019
- **Intro to Database Systems** (Carnegie Mellon University, 15-445/645) – Fall 2018
- **Advanced Database Systems** (Carnegie Mellon University, 15-721) – Spring 2018
- **Intro to Database Systems** (Carnegie Mellon University, 15-445/645) – Fall 2017
- **Advanced Database Systems** (Carnegie Mellon University, 15-721) – Spring 2017
- **Database Applications** (Carnegie Mellon University, 15-415/615) – Fall 2016
- **Advanced Database Systems** (Carnegie Mellon University, 15-721) – Spring 2016
- **Database Applications** (Carnegie Mellon University, 15-415/615) – Fall 2015
- **Database Applications** (Carnegie Mellon University, 15-415/615) – Spring 2015
- **Database Applications** (Carnegie Mellon University, 15-415/615) – Spring 2014
- **Special Topics: Big Data Systems** (Carnegie Mellon University, 15-799) – Fall 2013
- **NewSQL – The Course** (Brown University, CSC2270) – Spring 2012
- **Non-standard, Web-scale Databases** (Brown University, CSC2270) – Spring 2011

Mentoring

PhD Students

- Sam Arch (2022 – present)
- William Zhang (2021 – present)
- Wan Shen Lim (2020 – present)
- Matt Butrovich (2018 – 2024)
- Lin Ma (2015 – 2021)
- Prashanth Menon (2015 – 2021)
- Dana Van Aken (2014 – 2021)
- Huanchen Zhang (2014 – 2019)
- Joy Arulraj (2013 – 2018)
- Xiangyao Yu (2013 – 2017)

Post-Docs

- Lin Ma (2021 – 2022)
- Andrew Crotty (2021 – 2022)

Master's Students

- Abi Kim (Carnegie Mellon University, B.S., M.Sc. 2023)
- Mike Xu (Carnegie Mellon University, B.S., M.Sc. 2023)
- Deepayan Patra (Carnegie Mellon University, B.S., M.Sc. 2022)
- Tanuj Nayak (Carnegie Mellon University, B.S., M.Sc. 2021)
- Amadou Ngom (Carnegie Mellon University, B.S., M.Sc. 2020)
- Lily Liu (Carnegie Mellon University, M.Sc. 2019)
- Gustavo Angulo (Carnegie Mellon University, B.S., M.Sc. 2019)

- Tianyu Li (Carnegie Mellon University, B.S., M.Sc. 2019)
- Sivaprasad Sudhir (Carnegie Mellon University, M.Sc. 2018)
- Prashasthi Prabhakar (Carnegie Mellon University, M.Sc. 2017)
- Patrick Huang (Carnegie Mellon University, M.Sc. 2017)
- Matt Perron (Carnegie Mellon University, M.Sc. 2016)
- Thomas Marshall (Carnegie Mellon University, M.Sc. 2015)
- Atreyee Maiti (Carnegie Mellon University, M.Sc. 2014)
- Xin Jia (Brown University, M.Sc. 2013)
- Yang Zou (Brown University, M.Sc. 2012)
- Yang Lu (Brown University, M.Sc. 2012)
- Visawee Angkanawaraphan (Brown University, M.Sc. 2011)
- Zhe Zhang (Brown University, M.Sc. 2010)
- Ning Shi (Brown University, M.Sc. 2010)

Awards & Honors

- VLDB Early Career Award, Summer 2021
- ACM SIGMOD Distinguished Program Committee Member, Summer 2019
- NSF CAREER, Winter 2019
- VLDB Distinguished Associate Editor, Summer 2018
- ACM SIGMOD Best Paper Award, Summer 2018
- ACM SIGMOD Distinguished Program Committee Member, Summer 2018
- CMU Joel & Ruth Spira Teaching Award, Spring 2018
- Sloan Research Fellowship, Winter 2018
- Google Faculty Research Award, Winter 2018
- ACM SIGMOD Distinguished Program Committee Member, Summer 2017
- Facebook Faculty Research Award, Summer 2015
- Google Faculty Research Award, Summer 2015
- ACM SIGMOD Jim Gray Best Dissertation Award, Summer 2014
- Amazon Research Grant, Winter 2012
- ACM SIGMOD Student Travel Grant, Spring 2010
- Class Clown, Mt. Hebron High School, Spring 1999

Service

To the University

- CSD PhD Admissions Committee – 2025
- CSD Hiring Committee – 2022
- SCS Undergraduate Curriculum Review Committee – 2020-present
- CSD Hiring Committee – 2018
- CSD MS Admissions Committee – 2017
- CSD PhD Admissions Committee – 2016
- CSD PhD Admissions Committee – 2015
- CSD PhD Admissions Committee – 2014

To the Profession

- Associate Editor – VLDB 2026
- Program Committee – SIGMOD 2026
- Program Committee / Board of Trustees – CIDR (2021-present)
- Editorial Board – Foundations and Trends in Databases (2020-2022)
- Program Committee – CIDR 2020
- Associate Editor – VLDB 2020
- Area Chair – SIGMOD 2020
- Program Committee – CIDR 2019
- Program Committee – SIGMOD 2019

- Program Committee – VLDB 2019
- Associate Editor – VLDB 2018
- Program Committee – SIGMOD 2018
- Co-Chair – FADS@VLDB 2017
- Program Committee / Demo Co-Chair – SIGMOD 2017
- Program Committee – CIDR 2017
- Program Committee Area Chair – ICDE 2016
- Program Committee / PhD Workshop – VLDB 2016
- Co-Chair – IMDM 2016
- Program Committee – SIGMOD 2016
- Steering Committee / Program Committee – HPTS 2015
- Co-Chair – IMDM 2015
- Program Committee / Demo Committee / Dissertation Award Committee – SIGMOD 2015
- Program Committee / Demo Committee – VLDB 2015
- Co-Chair – IMDM 2014
- Program Committee – SIGMOD 2014
- Program Committee – SoCC 2014
- Program Committee – CloudDP 2014
- Program Committee – VLDB 2014
- External Reviewer – LNCS Transactions on Large-Scale Data- and Knowledge-Centered Systems, March 2013
- External Reviewer – Springer Journal of Distributed and Parallel Databases, January 2013
- External Reviewer – IBM Journal of Research and Development, July 2012
- Demo Judge – SIGMOD 2010
- Demo Judge – SIGMOD 2009

Publications

Refereed

- [1] Matthew Butrovich, Samuel Arch, Wan Shen Lim, William Zhang, Jignesh M Patel, and Andrew Pavlo. “BPF-DB: A Kernel-Embedded Transactional Database Management System For eBPF Applications”. In: *Proc. ACM Manag. Data* 3.3 (June 2025). doi: 10.1145/3725272.
- [2] Abigale Kim, Marco Slot, David G. Andersen, and Andrew Pavlo. “Anarchy in the Database: A Survey and Evaluation of Database Management System Extensibility”. In: *Proc. VLDB Endow.* 18.6 (2025), pp. 1962–1976. doi: 10.14778/3725688.3725719. URL: <https://www.vldb.org/pvldb/vol18/p1962-kim.pdf>.
- [3] Martin Prammer, Xinyu Zeng, Ruijun Meng, Wes McKinney, Huanchen Zhang, Andrew Pavlo, and Jignesh Patel. “Towards Functional Decomposition of Storage Formats”. In: *CIDR 2025, Conference on Innovative Data Systems Research*. 2025. URL: <https://db.cs.cmu.edu/papers/2025/p19-prammer.pdf>.
- [4] Michael Stonebraker and Andrew Pavlo. “What Goes Around Comes Around... And Around...” In: *SIGMOD Record* 53.2 (June 2024), pp. 21–37. doi: 10.1145/3685980.3685984. URL: <https://db.cs.cmu.edu/papers/2024/whatgoesaround-sigmodrec2024.pdf>.
- [5] Samuel I Arch, Todd C. Mowry, Jignesh M. Patel, and Andrew Pavlo. “The Key to Effective UDF Optimization: Before Inlining, First Perform Outlining”. In: *Proc. VLDB Endow.* 18.1 (2024), pp. 1–13. doi: 10.14778/3696435.3696436.
- [6] William Zhang, Wan Shen Lim, Matthew Butrovich, and Andrew Pavlo. “The Holon Approach for Simultaneously Tuning Multiple Components in a Self-Driving Database Management System with Machine Learning via Synthesized Proto-Actions”. In: *Proc. VLDB Endow.* 17.11 (2024), pp. 3373–3387. doi: 10.14778/3681954.3682007. URL: <https://www.vldb.org/pvldb/vol17/p3373-zhang.pdf>.
- [7] Wan Shen Lim, Lin Ma, William Zhang, Matthew Butrovich, Samuel I Arch, and Andrew Pavlo. “Hit the Gym: Accelerating Query Execution to Efficiently Bootstrap Behavior Models for Self-Driving Database Management Systems”. In: *Proc. VLDB Endow.* 17.11 (2024), pp. 3680–3693. doi: 10.14778/3681954.3682030. URL: <https://www.vldb.org/pvldb/vol17/p3680-lim.pdf>.

- [8] Xinyu Zeng, Ruijun Meng, Andrew Pavlo, Wes McKinney, and Huanchen Zhang. “NULLS!: Revisiting Null Representation in Modern Columnar Formats”. In: *Proceedings of the 20th International Workshop on Data Management on New Hardware*. DaMoN ’24. 2024. doi: 10.1145/3662010.3663452. URL: <https://db.cs.cmu.edu/papers/2024/zeng-damon24.pdf>.
- [9] Kai Franz, Samuel I Arch, Denis Hirn, Torsten Grust, Todd Mowry, and Andrew Pavlo. “Dear User-Defined Functions, Inlining isn’t working out so great for us. Let’s try batching to make our relationship work. Sincerely, SQL”. In: *CIDR 2024, Conference on Innovative Data Systems Research*. 2024. URL: <https://db.cs.cmu.edu/papers/2024/p13-franz.pdf>.
- [10] Xinyu Zeng, Yulong Hui, Jiahong Shen, Andrew Pavlo, Wes McKinney, and Huanchen Zhang. “An Empirical Evaluation of Columnar Storage Formats”. In: *Proc. VLDB Endow.* 17.2 (2023), pp. 148–161. doi: 10.14778/3626292.3626298. URL: <https://www.vldb.org/pvldb/vol17/p148-zeng.pdf>.
- [11] Matthew Butrovich, Karthik Ramanathan, John Rollinson, Wan Shen Lim, William Zhang, Justine Sherry, and Andrew Pavlo. “Tigger: A Database Proxy That Bounces With User-Bypass”. In: *Proc. VLDB Endow.* 16.11 (2023), pp. 3335–3348. doi: 10.14778/3611479.3611530. URL: <https://www.vldb.org/pvldb/vol16/p3335-butrovich.pdf>.
- [12] Wan Shen Lim, Matthew Butrovich, William Zhang, Andrew Crotty, Lin Ma, Peijing Xu, Johannes Gehrke, and Andrew Pavlo. “Database Gyms”. In: *CIDR 2023, Conference on Innovative Data Systems Research*. 2023. URL: <https://db.cs.cmu.edu/papers/2023/p27-lim.pdf>.
- [13] Yu Xia, Xiangyao Yu, Matthew Butrovich, Andrew Pavlo, and Srinivas Devadas. “Litmus: Towards a Practical Database Management System with Verifiable ACID Properties and Transaction Correctness”. In: *Proceedings of the 2022 International Conference on Management of Data*. SIGMOD ’22. 2022, pp. 1478–1492. doi: 10.1145/3514221.3517851. URL: <https://db.cs.cmu.edu/papers/2022/yu-litmusdb-sigmod2022.pdf>.
- [14] Matthew Butrovich, Wan Shen Lim, Lin Ma, John Rollinson, William Zhang, Yu Xia, and Andrew Pavlo. “Tastes Great! Less Filling! High Performance and Accurate Training Data Collection for Self-Driving Database Management Systems”. In: *Proceedings of the 2022 International Conference on Management of Data*. SIGMOD/PODS ’22. 2022, pp. 617–630. doi: 10.1145/3514221.3517845.
- [15] Andrew Crotty, Viktor Leis, and Andrew Pavlo. “Are You Sure You Want to Use MMAP in Your Database Management System?” In: *CIDR 2022, Conference on Innovative Data Systems Research*. 2022. URL: <https://db.cs.cmu.edu/papers/2022/cidr2022-p13-crotty.pdf>.
- [16] Dana Van Aken, Dongsheng Yang, Sebastien Brillard, Ari Fiorino, Bohan Zhang, Christian Billian, and Andrew Pavlo. “An Inquiry into Machine Learning-based Automatic Configuration Tuning Services on Real-World Database Management Systems”. In: *Proc. VLDB Endow.* 14.7 (2021), pp. 1241–1253. URL: <https://db.cs.cmu.edu/papers/2021/p1241-aken.pdf>.
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- [18] Amadou Ngom, Prashanth Menon, Matthew Butrovich, Lin Ma, Wan Shen Lim, Todd C. Mowry, and Andrew Pavlo. “Filter Representation in Vectorized Query Execution”. In: *Proceedings of the 17th International Workshop on Data Management on New Hardware (DaMoN 2021)*. DAMON’21. 2021, 6:1–6:7. doi: 10.1145/3465998.3466009. URL: <https://db.cs.cmu.edu/papers/2021/ngom-damon2021.pdf>.
- [19] Xinjing Zhou, Joy Arulraj, Andrew Pavlo, and David Cohen. “Spitfire: A Three-Tier Buffer Manager for Volatile and Non-Volatile Memory”. In: *Proceedings of the 2021 International Conference on Management of Data*. SIGMOD ’21. 2021, pp. 2195–2207. doi: 10.1145/3448016.3452819. URL: <https://db.cs.cmu.edu/papers/2021/zhou-sigmod2021.pdf>.
- [20] Ling Zhang, Matthew Butrovich, Tianyu Li, Andrew Pavlo, Yash Nannapaneni, John Rollinson, Huanchen Zhang, Ambarish Balakumar, Daniel Biales, Ziqi Dong, Emmanuel J Eppinger, Jordi E Gonzalez, Wan Shen Lim, Jianqiao Liu, Lin Ma, Prashanth Menon, Soumil Mukherjee, Tanuj Nayak, Amadou Ngom, Dong Niu, Deepayan Patra, Poojita Raj, Stephanie Wang, Wuwen Wang, Yao Yu, and William Zhang. “Everything is a Transaction: Unifying Logical Concurrency Control and Physical Data Structure Maintenance in Database Management Systems”. In: *CIDR 2021, Conference on Innovative Data Systems Research*. 2021. URL: <https://db.cs.cmu.edu/papers/2021/cidr2021-paper06.pdf>.

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- [22] Yu Xia, Xiangyao Yu, Andrew Pavlo, and Srinivas Devadas. “Taurus: Lightweight Parallel Logging for In-Memory Database Management Systems”. In: *Proc. VLDB Endow.* 14.2 (2020), pp. 189–201. URL: <https://db.cs.cmu.edu/papers/2020/p189-xia.pdf>.
- [23] Prashanth Menon, Amadou Ngom, and Andrew Pavlo Lin Ma Todd C. Mowry. “Permutable Compiled Queries: Dynamically Adapting Compiled Queries without Recompiling”. In: *Proc. VLDB Endow.* 14.2 (2020), pp. 101–113. URL: <https://db.cs.cmu.edu/papers/2020/p101-menon.pdf>.
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- [25] Yihan Sun, Guy E. Blleloch, Wan Shen Lim, and Andrew Pavlo. “On Supporting Efficient Snapshot Isolation for Hybrid Workloads with Multi-Versioned Indexes”. In: *Proc. VLDB Endow.* 13 (2 Oct. 2019), pp. 221–225. URL: <https://db.cs.cmu.edu/papers/2019/p211-sun.pdf>.
- [26] Yangjun Sheng, Anthony Tomasic, Tieying Zhang, and Andrew Pavlo. “Scheduling OLTP transactions via learned abort prediction”. In: *Proceedings of the Second International Workshop on Exploiting Artificial Intelligence Techniques for Data Management, aiDM@SIGMOD 2019*. 2019, 1:1–1:8. URL: <https://db.cs.cmu.edu/papers/2019/a1-sheng.pdf>.
- [27] Timo Kersten, Viktor Leis, Alfons Kemper, Thomas Neumann, Andrew Pavlo, and Peter Boncz. “Everything You Always Wanted to Know About Compiled and Vectorized Queries But Were Afraid to Ask”. In: *Proc. VLDB Endow.* 11 (13 Sept. 2018), pp. 2209–2222. URL: <https://db.cs.cmu.edu/papers/2018/p2209-kersten.pdf>.
- [28] Xiangyao Yu, Yu Xia, Andrew Pavlo, Daniel Sanchez, Larry Rudolph, and Srinivas Devadas. “Sundial: Harmonizing Concurrency Control and Caching in a Distributed OLTP Database Management System”. In: *Proc. VLDB Endow.* 11.10 (June 2018), pp. 1289–1302. URL: <https://db.cs.cmu.edu/papers/2018/p1289-yu.pdf>.
- [29] Ziqi Wang, Andrew Pavlo, Hyeontaek Lim, Viktor Leis, Huanchen Zhang, Michael Kaminsky, and David G. Andersen. “Building a Bw-Tree Takes More Than Just Buzz Words”. In: *Proceedings of the 2018 ACM International Conference on Management of Data*. SIGMOD ’18. 2018, pp. 473–488. URL: <https://db.cs.cmu.edu/papers/2018/mod342-wangA.pdf>.
- [30] Lin Ma, Dana Van Aken, Ahmed Hefny, Gustavo Mezerhane, Andrew Pavlo, and Geoffrey J Gordon. “Query-based Workload Forecasting for Self-Driving Database Management Systems”. In: *Proceedings of the 2018 ACM International Conference on Management of Data*. SIGMOD ’18. 2018, pp. 631–645. DOI: 10.1145/3183713.3196908. URL: <https://db.cs.cmu.edu/papers/2018/mod435-maA.pdf>.
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- [33] Yingjun Wu, Joy Arulraj, Jiexi Lin, Ran Xian, and Andrew Pavlo. “An Empirical Evaluation of In-Memory Multi-Version Concurrency Control”. In: *Proc. VLDB Endow.* 10.7 (Mar. 2017), pp. 781–792. URL: <https://db.cs.cmu.edu/papers/2017/p781-wu.pdf>.
- [34] Rachael Harding, Dana Van Aken, Andrew Pavlo, and Michael Stonebraker. “An Evaluation of Distributed Concurrency Control”. In: *Proc. VLDB Endow.* 10.5 (Jan. 2017), pp. 553–564. URL: <https://db.cs.cmu.edu/papers/2017/p553-harding.pdf>.
- [35] Dana Van Aken, Andrew Pavlo, Geoffrey J. Gordon, and Bohan Zhang. “Automatic Database Management System Tuning Through Large-scale Machine Learning”. In: *Proceedings of the 2017 ACM International Conference on Management of Data*. SIGMOD ’17. 2017, pp. 1009–1024. DOI: 10.1145/3035918.3064029. URL: <https://db.cs.cmu.edu/papers/2017/p1009-van-aken.pdf>.

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- [38] Joy Arulraj, Matthew Perron, and Andrew Pavlo. “Write-Behind Logging”. In: *Proc. VLDB Endow.* 10.4 (Dec. 2016), pp. 337–348. URL: <https://db.cs.cmu.edu/papers/2016/p337-arulraj.pdf>.
- [39] Marco Serafini, Rebecca Taft, Aaron J Elmore, Andrew Pavlo, Ashraf Aboulmaga, and Michael Stonebraker. “Clay: Fine-Grained Adaptive Partitioning for General Database Schemas”. In: *Proc. VLDB Endow.* 10.4 (Dec. 2016), pp. 445–456. URL: <http://hstore.cs.brown.edu/papers/hstore-clay.pdf>.
- [40] Lin Ma, Joy Arulraj, Sam Zhao, Andrew Pavlo, Subramanya R. Dullloor, Michael J. Giardino, Jeff Parkhurst, Jason L. Gardner, Kshitij Doshi, and Stanley Zdonik. “Larger-than-memory Data Management on Modern Storage Hardware for In-memory OLTP Database Systems”. In: *Proceedings of the 12th International Workshop on Data Management on New Hardware*. DaMoN ’16. 2016, 9:1–9:7. URL: <https://db.cs.cmu.edu/papers/2016/ma-damon2016.pdf>.
- [41] Joy Arulraj, Andrew Pavlo, and Prashanth Menon. “Bridging the Archipelago Between Row-Stores and Column-Stores for Hybrid Workloads”. In: *Proceedings of the 2016 International Conference on Management of Data*. SIGMOD ’16. 2016, pp. 583–598. DOI: 10.1145/2882903.2915231. URL: <https://db.cs.cmu.edu/papers/2016/arulraj-sigmod2016.pdf>.
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- [47] Joy Arulraj, Andrew Pavlo, and Subramanya Dullloor. “Let’s Talk About Storage & Recovery Methods for Non-Volatile Memory Database Systems”. In: *Proceedings of the 2015 International Conference on Management of Data*. SIGMOD ’15. 2015, pp. 707–722. URL: <https://db.cs.cmu.edu/papers/2015/p707-arulraj.pdf>.
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- [49] Rebecca Taft, Essam Mansour, Marco Serafini, Jennie Duggan, Aaron J. Elmore, Ashraf Aboulmaga, Andrew Pavlo, and Michael Stonebraker. “E-Store: Fine-Grained Elastic Partitioning for Distributed Transaction Processing”. In: *PVLDB* 8.3 (2014), pp. 245–256. URL: <https://hstore.cs.brown.edu/papers/hstore-elastic.pdf>.
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Book Chapters

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Demonstrations / Tutorials

- [1] Patrick Wang, Wan Shen Lim, William Zhang, Samuel Arch, and Andrew Pavlo. “Automated Database Tuning vs. Human-Based Tuning in a Simulated Stressful Work Environment: A Demonstration of the Database Gym”. In: *Companion of the 2025 International Conference on Management of Data*. SIGMOD/PODS ’25. 2025, pp. 247–250. doi: 10.1145/3722212.3725083.
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Miscellaneous Writings

- [1] Huanchen Zhang, Hyeontaek Lim, Viktor Leis, David G. Andersen, Michael Kaminsky, Kimberly Keeton, and Andrew Pavlo. “Succinct Range Filters”. In: *Commun. ACM* 64.4 (Mar. 2021), pp. 166–173. URL: <https://doi.org/10.1145/3450262>.
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Synergistic Activities

Open-Source Software:

- optd Query Optimizer (<https://github.com/cmu-db/optd>)
- BenchBase Database Benchmark Suite (<https://github.com/cmu-db/benchbase>)
- NoisePage Database Management System (<https://noisepage.com>)
- Peloton Database Management System (<https://db.cs.cmu.edu/peloton>)
- OtterTune (<https://db.cs.cmu.edu/projects/ottertune/>)
- Database of Databases (<https://dbdb.io>)
- H-Store Database Management System (<https://hstore.cs.brown.edu>)

Database Seminar Series:

- Fall 2025: Future Data Systems Seminar Series (<https://db.cs.cmu.edu/seminars/fall2025>)
- Spring 2025: SQL or Death? Seminar Series (<https://db.cs.cmu.edu/seminar2025>)
- Fall 2024: Database Building Blocks Technical Talks (<https://db.cs.cmu.edu/seminar2024>)
- Fall 2023: ML $\rightleftharpoons$ DB Technical Talks (<https://db.cs.cmu.edu/seminar2023>)
- Fall 2022: ¡Databases! - A Database Seminar Series (<https://db.cs.cmu.edu/seminar2022>)
- Spring 2022: Vaccination Database Tech Talks – Booster (<https://db.cs.cmu.edu/seminar2022-booster>)
- Fall 2021: Vaccination Database Tech Talks – Second Dose (<https://db.cs.cmu.edu/seminar2021-dose2>)
- Spring 2021: Vaccination Database Tech Talks – First Dose (<https://db.cs.cmu.edu/seminar2021>)
- Fall 2020: Quarantine Database Tech Talks (<https://db.cs.cmu.edu/seminar2020>)
- Fall 2018: Hardware-Accelerated Database Lectures (<https://db.cs.cmu.edu/seminar2018>)
- Fall 2017: Time Series Database Lectures (<https://db.cs.cmu.edu/seminar2017>)
- Fall 2015: Databaseology Lectures (<https://db.cs.cmu.edu/seminar2015>)
- Fall 2014: Seven Databases in Seven Weeks (<https://db.cs.cmu.edu/seminar2014>)

Internship Programs:

- Summer 2025 (<https://db.cs.cmu.edu/internship2025>)
- Summer 2021 (<https://db.cs.cmu.edu/internship2021>)
- Summer 2019 (<https://db.cs.cmu.edu/internship2019>)
- Summer 2018 (<https://db.cs.cmu.edu/internship2018>)
- Summer 2017 (<https://db.cs.cmu.edu/internship2017>)
- Summer 2017 Pennsylvania Governor’s School for the Sciences (Pre-College)

Talks

- “What Goes Around Comes Around... And Around...,” *PGConf NYC 2023 Keynote*, October 2023.
- “Why Machine Learning for Automatically Optimizing Databases Doesn’t Work,” *J on the Beach 2023 Keynote*, May 2023.
- “The Building Blocks for Self-Driving PostgreSQL,” *Citus Con 2022 Keynote*.
- “Do We Still Need People to Write Database Systems?,” *OSACON 2021, Dremio Subsurface 2022*.
- “The OtterTune Database Configuration Auto-Tuning Service,” *University of Iowa / University of Wisconsin / National Database Conference of China, 2020*.
- “Self-Driving Databases & My Pregnant Wife: The Hard Parts,” *Speaking Tour 2019*, <https://db.cs.cmu.edu/tour2019>.
- “Make Your Database Dream of Electric Sheep: Designing for Autonomous Operation,” *Amazon AWS / Percona Live / Microsoft Research Faculty Summit*, March 2018.

- “What Non-Volatile Memory Means for the Future of Database Systems,” *Two Sigma / MongoDB*, August 2017.
- “What Are We Doing With Our Lives?: Nobody Cares About Our Concurrency Control Research,” *SIGMOD Keynote*, May 2017.
- “How to Build a Non-Volatile Memory Database Management System,” *SIGMOD Tutorial*, May 2017.
- “Self-Driving Database Management System,” *CIDR / Google / DataBricks*, January 2017.
- “Peloton: The Self-Driving Database Management System,” *DataEngConf (NYC)*, November 2016.
- “What Non-Volatile Memory Means for the Future of Database Systems,” *In-Memory Computing Summit*, May 2016.
- “Andy Pavlo’s Mostly Professional and Collected Presentation about Getting Down & Dirty in OLTP Databases with Intel’s NVM SDV,” *ISTC for Big Data Retreat*, September 2015.
- “Reducing Replication Bandwidth for Distributed Document Databases,” *MongoDB*, July 2015.
- “Moving the Abyss: Database Management on Future 1000-core Processors,” *NSF Workshop on Exploiting Parallelism and Scalability*, June 2015.
- “I Don’t Want to be the Mitt Romney of Databases,” *University of Michigan / Two Sigma / IBM Research / University of Waterloo*, April–November 2015.
- “Database Systems Do Not Scale to 1000 CPU Cores and Other Tales of the Macabre,” *CMU Qatar / Qatar Computing Research Institute / New England Database Summit*, December 2014.
- “Let’s Talk About Storage & Recovery Methods for Non-Volatile Memory OLTP Database Systems,” *ISTC for Big Data Retreat*, August 2014.
- “H-Store Retrospective,” *SIGMOD Jim Gray Doctoral Dissertation Award*, June 2014.
- “Cache Rules Everything Around Me,” *Univ. of California, Santa Cruz / Univ. of California, Berkeley / Stanford University / University of Pittsburgh*, January 2014
- “OLTP on the NVM SDV: YMMV,” *ISTC for Big Data Retreat*, December 2013.
- “What’s Really New With NewSQL,” *Northwest Database Society / Google Kirkland*, October 2013.
- “Random Prognostications: An Evening with Andy Pavlo,” *HPTS 2013*, September 2013.
- “On Predictive Modeling for Distributed Databases,” *VLDB*, August 2012.
- “Automatic Database Partitioning in Parallel OLTP Systems,” *SIGMOD*, May 2012.
- “Making Fast Databases Faster,” *Columbia University / Yale University*, April 2012.
- “Methods for the Optimization of Parallel OLTP Systems,” *VoltDB, Inc.*, April 2012.
- “Making Fast Databases Faster,” *New England Database Summit 2012*, February 2012.
- “Magical Parallel OLTP Databases,” *Massachusetts Institute of Technology*, November 2011.
- “Life After the Stonebraker Stores,” *HPTS*, October 2011.
- “MapReduce and Parallel DBMSs: Together At Last,” *Brown IPP Symposium on Cloud Computing*, May 2010.
- “MapReduce and Parallel DBMSs: Together At Last,” *New England Database Summit 2010*, January 2010.
- “H-Store: A Specialized Architecture for High-throughput OLTP Applications,” *International Workshop on High Performance Transaction Systems*, October 2009.
- “Graffiti Networks: A Subversive, Internet-Scale File Sharing Model,” *DC401 - Rhode Island Defcon Group*, October 2009.
- “MapReduce and Parallel DBMSs: A Comparison of Approaches to Large-Scale Data Analysis,” *University of Maryland College Park*, September 2009.
- “Challenges in Dynamic Deployment of Condor Across Distributed Environments,” *University of Wisconsin–Madison*, May 2007.
- “NMI Build & Test Laboratory: Continuous Integration Framework for Distributed Computing Software,” *USENIX*

Panels

- “Magical Machine Learning for Database Tuning,” (Moderator) *VLDB*, August 2021.
Video: <https://youtu.be/Z-R8q-LakW8>
- “Junior Faculty Panel,” *CMU/MIT Rising Stars Workshop*, November 2016.
- “Computing Futures,” *CMU CSD50 Celebration*, October 2015.
- “Can Big Data Platforms EVER Deliver Real-time Analytics?,” *BIRTE @ VLDB*, August 2015.
- “Mobility and Big Data: Adding an M to the Vs, or not?,” *IEEE International Conference on Mobile Data Management*, June 2015.