

Jignesh M. Patel

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CURRENT RESEARCH INTERESTS

Data management.

EDUCATION

- Ph.D.** Computer Sciences, May 1998. University of Wisconsin—Madison.
Dissertation: Efficient Database Support for Spatial Applications.
Advisor: David J. DeWitt.
- M.S.** Computer Sciences, May 1993. University of Wisconsin—Madison.
- B.Tech.** Bachelor of Technology in Computer Science and Engineering (with honors), May 1991.
Institute of Technology-Benaras Hindu University (IIT-Varanasi), India.

PROFESSIONAL EXPERIENCE

- June 2010-present** Professor, Computer Sciences Department, University of Wisconsin-Madison.
Also affiliated with the Department of Biostatistics and Medical Informatics, University of Wisconsin-Madison.
Co-founder and co-Chair of the UW Creative Destruction Lab (CDL-WI) from 2020-2022.
- June 2020-present** DataChat Inc., Co-founder, CEO and President.
- Sept. 2019-present** Wisconsin Economic Development Corp. (WEDC) Entrepreneurship and Innovation Committee, Member. Committee created by WEDC at the request of the Wisconsin Governor to assist entrepreneurs in the state.
- April 2014-present** Board Member/Director, Lands' End Inc.; Chair of the Technology Committee (2014-17), Member of the Audit Committee (2018-present).
- June 2015-June 2016** Chief Scientist, Pivotal Inc.

**May 2015-
June 2018** Board Member/Director, Redox Inc. (a Madison, WI healthcare integration startup).

**May 2007-
Dec. 2013** Co-founder and Chairman, Locomatix Inc. since inception, CEO since 2010. Locomatix became part of Twitter in the Summer of 2013.

2009-present Founder and organizer of the UW CS NEST Contest – a software entrepreneurship contest that encourages creative software startups.

**Sept. 2008-
June 2010** Associate Professor, Computer Sciences Department, University of Wisconsin – Madison.

**May 2005-
Aug. 2008** Associate Professor, Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI. Also affiliated with the Bioinformatics Program at the University of Michigan.

**July 2012-July
2013** Advisor, EatStreet.com (a Madison, WI startup for online food ordering).

**June 2006-
May 2008** Director of Media Analysis (2006-07), Technical Advisory Board (2007-08), Zattoo Inc. (a video streaming startup).

**Aug. 1999-
May 2005** Assistant Professor, Department of Electrical Engineering and Computer Science, University of Michigan, Ann Arbor, MI.

**Feb. 1998-
Aug. 1999** Consulting Software Engineer, Advanced Development Ctr., NCR, Madison, WI.

**May 1995-
Sept. 1995** Summer Intern, IBM T. J. Watson Research Center, Hawthorne, NY.

AWARDS

- AAAS Fellowship, 2022.
- Vilas Associates Award, U. of Wisconsin, 2019.
- IEEE Fellowship, 2018.
- ACM Fellowship, 2014.
- SACM Student Choice Professor of the Year Award, CS Department, U. Wisconsin, 2014.
- IEEE Senior Member, 2014.
- Inaugural M-List winner. Named as one of the top technology entrepreneurs in Madison, WI, 2013.
- University of Wisconsin Police Department (UWPD) Chief's award, 2012.
- Best papers in VLDB 2012.
- Best papers in ICDE 2012.

- ACM Distinguished Scientist, 2011.
- Best papers in SIGMOD 2011.
- Best papers in ICDE 2010.
- Best paper award, DaMoN 2010.
- Best paper award, DaMoN 2009.
- College of Engineering Education Excellence Award, University of Michigan, 2008.
- Google Faculty Award, 2012
- NSF CAREER Award, 2001.
- IBM Faculty Award, 2001 and 2003.

GRANTS AND RESEARCH GIFTS

- "Elements: Software: Towards Efficient Embedded Data Processing," National Science Foundation (NSF), OAC- 1835446, 2019-23, \$ 599,800. Role: PI.
- "CRISP: Center for Research on Intelligent Storage and Processing-in-memory," Semiconductor Research Council (SRC), 2018-22, \$27.5M, UW component: \$3,697,805. Role: Theme Leader, and co-PI.
- Microsoft Jim Gray Research Lab Collaboration Grant, ~\$125K/year, 2012-present. Role: co-PI.
- Google/YouTube, gift donation, \$52,000, 2017-18. Role: PI.
- "TRACE: TRacking and Analysis of Causality at Enterprise-level," DARPA, 2015-19, \$5.3M, UW Component: \$799,999. Role: co-PI.
- "The Center for Predictive Computational Phenotyping," National Institutes of Health (NIH), 2014-19, \$10M. Role: co-PI.
- "BIGDATA: Small: DCM: Data Management for Analytics Applications on Modern Architecture," IIS-1250886, 2013-16, \$680,916. Role: PI.
- "QuickLog – Dynamic Modeling and Monitoring of Log Data," gift donation from Oracle, 2013, \$100,000. Role: PI.
- Google Focus Award, gift donation, 2013, \$500,000. Role: co-PI.
- "Comparison of NoSQL and SQL Databases for Petascale Genomics Applications," Exploratory grant from Marshfield Clinic, WI, 2013, \$32,510. Role: PI.
- "CSR: Small: Accelerating Towards the Hardware Specialization Era: A Holistic Approach," National Science Foundation (NSF), CSR-1218432, 2012-15, \$387,496. Role: co-PI.
- "Rethinking Data Analytics for Modern Multi-core and Main Memory Environments," gift donation from Google, 2012, \$50,000. Role: PI.
- "III: Large: Collaborative Research: SciDB – An Array Oriented Data Management System for Massive Scale Scientific Data," IIS-1110948, 2011-15, \$370,706 (UW portion). Role: co-PI.
- "Energy-Efficient Data Processing," National Science Foundation (NSF), IIS-0963993, 2010-2014, \$783,846. Role: PI.
- "Data processing in Smart SSDs," gift donation from Samsung, \$75,000, 2011. Role: PI.
- "Integrated Biological Sequence Data Management," National Science Foundation (NSF), BDI-0543272, 2006-2009, extended to 2010, \$575,105. Role: PI.
- "CRI-IAD: Collaborative Research: Enabling Security and Network Management Research for

- Future Networks,” National Science Foundation (NSF), CNS-0751116, 2008-14, \$368,773. Role: co-PI.
- “COMET: An Efficient and Scalable Trajectory Data Management System,” National Science Foundation (NSF), IIS-0414510, 2005-08, extended to 2010, \$270,000. Role: PI.
 - “Secure Coordination and Communication in a Crisis Using Hand-Held Devices,” Department of Homeland Security (DHS), W911NF-05-1-0415, 2005-08, \$1,365,397. Role: co-PI.
 - “Nemo LEAPS Integration,” Department of Navy, N00024-01-D-7017, 2006-2008, Subcontract amount: \$129,253. Role: co-PI.
 - “Proteomics Alliance for Cancer Research,” Michigan Economic Development Corporation (MEDC), 2005-08, \$2,363,605. Role: co-I.
 - “National Center for Integrative Biomedical Informatics”, National Institutes of Health (NIH), U54-DA021519-01A1, 2006-10, \$18,780,596. Role: co-I.
 - “Antidepressants, Concurrent Treatments, and Completed Suicide in VA Registry Data,” National Institutes of Health (NIH), 1R01MH078698, 2006-09, Year 1 subcontract: \$9,9527. Role: co-I.
 - “Quickstep: An Architecture-Conscious DBMS,” National Science Foundation (NSF), NSF CAREER Award IIS-0093059, 2001-06, extended to 2007, \$349,172. Role: PI.
 - “Virtual Center for Network and Security Data,” Department of Homeland Security (DHS), 2004-07. 1st year contract: \$1,256,068. Role: co-PI.
 - “Integration of Bioengineering & Biocomputing to Advance Michigan Computer-Assisted Surgery Research,” Michigan Economic Development Corporation (MEDC), \$137,725, 2003-06. Subcontract on a grant from MEDC, lead by Dr. Vipin Kumar at Wayne State University.
 - “TIMBER: A Native XML Database System,” National Science Foundation (NSF), IIS-0208852, 2002-04, \$165,000. Role: co-PI.
 - “Graph Querying for Life Sciences Applications,” Microsoft Research Grant, 2006, \$35,000. Role: PI.
 - “Declarative and Efficient Methods for Biological Data Management,” Microsoft Research Grant, 2004, \$35,000. Role: PI.
 - “Declarative Querying of Biological Data,” Microsoft Research Grant, 2004, \$40,000. Role: PI.
 - “Declarative and Efficient Querying on Protein Structures,” Microsoft Research Grant, 2003, \$35,000. Role: PI.
 - “Periscope: A System for Declarative Querying on Protein Data Sets,” IBM Faculty Award, 2003, \$40,000. Role: PI.
 - “Scalable Processing of Location-Based Notifications,” IBM Faculty Award, 2001, \$40,000. Role: PI.
 - “Modeling and Querying Protein Sequences Using an Object-Relational Database Management System,” Eli Lilly & Co., 2001, \$59,074. Role: PI.
 - “Harnessing the Power of Object-Relational Databases for XML Query Processing,” NCR Corp., 2000, \$121,000. Role: PI

PROFESSIONAL ACTIVITIES

Conference Officer

- 2024: SIGMOD (Associate Editor).
- 2023: CIDR (PC co-chair).
- 2022: CIDR.
- 2021: CIDR (PC co-chair), PVLDB.
- 2020: CIDR (PC co-chair), PVLDB, SIGMOD.
- 2019: CIDR (PC co-chair), PVLDB, SIGMOD.
- 2015: VLDB/PVLDB (Associate Editor), SIGMOD (Group Leader), ICDE (Applications Track co-chair).
- 2014: ICDE (Area chair), VLDB (Panel co-chair).
- 2011: VLDB (Demo PC co-chair), SIGMOD (Group Leader), EDBT (Tutorials Chair).
- 2010: DaMoN.
- 2009: Core Database Technology Program Chair, VLDB.
- 2006: KDD (Treasurer).
- 2005: ICDE (Vice Chair).

Program Committee (Conferences)

- 2020: PVLDB.
- 2019: SIGMOD, PVLDB.
- 2018: SIGMOD, PVLDB.
- 2017: SIGMOD, PVLDB.
- 2016: PVLDB, ICDE.
- 2014: SIGMOD, PVLDB, EDBT, IEEE BigData (Senior PC).
- 2013: PVLDB, PODS (External Review Committee).
- 2008: ICDE, VLDB.
- 2007: BIODDD, CIDR, ICDE, SIGMOD, VLDB.
- 2006: ICDE, KDD, MDM, VLDB.
- 2005: COMAD, DEXA, ISMB, MDM, SIGMOD, VLDB.
- 2004: CIKM, DEXA, ICDE, MDM, VLDB.
- 2003: SIGMOD, ICDE, MDM.
- 2002: EDBT, ICDE, VLDB.

Abbreviations

BIDM	International Workshop on Biological Data Management
BIODDD	ACM SIGKDD Workshop on Data Mining in Bioinformatics
CIDR	Conference on Innovative Data Systems Research
CIKM	ACM International Conference on Information and Knowledge Management
COMAD	International Conference on Management of Data
DaMoN	International Workshop on Data Management on New Hardware
DanaC	Data Analytics in the Cloud
DEXA	International Conference on Database and Expert Systems Applications
DILS	Data Integration in the Life Sciences
EDBT	International Conference on Extending Database Technology
GIS	ACM International Symposium on Geographic Information Systems
GRADES	Graph Data Management Experiences and Systems
ICDE	IEEE International Conference on Data Engineering
ISMB	International Conference on Intelligent Systems for Molecular Biology
KDD	ACM International Conference on Knowledge Discovery and Data Mining
MDM	IEEE International Conference on Mobile Data Management
MobiDE	ACM Workshop on Data Engineering for Wireless and Mobile Access
MSP	ACM SIGPLAN Workshop on Memory System Performance
PODS	Symposium on Principles of Database Systems
SIGMOD	ACM International Conference on Management of Data
SSD	International Symposium on Spatial Databases
SSTD	International Symposium on Spatial and Temporal Databases
STDBM	Workshop on Spatio-Temporal Database Management
VLDB/PVLDB	International Conference on Very Large Data Bases
WebDB	Workshop on Web and Databases

Program Committee (Workshops)

- 2015: DaMoN.
- 2014: DaMoN.
- 2013: WebDB, DanaC, GRADES.
- 2012: DanaC, DaMoN.
- 2006: DILS, GIS, STDBM.
- 2005: BIDM, DaMoN, DILS, GIS, MobiDE, SSTD.
- 2004: BIODDD.
- 2003: MobiDE
- 2002: MSP.
- 2001: GIS.
- 1999: SSD.

Editorial Board

- Editorial Board, VLDB Journal, July 2013-2017.
- Editorial Board, Foundations and Trends in Databases, 2006-2017.
- Editorial Board, Distributed and Parallel Databases, 2008-2013.
- Associate Editor (Systems and Prototypes), ACM SIGMOD Record, June 1999-2005.
- Associate Editor, IEEE Data Engineering Bulletin, 2004-2005.

Society Membership

- AAAS
- ACM (SIGMOD).
- IEEE (Computer).

Journal Refereeing

- ACM Transactions on Database Systems
- Bioinformatics
- BMC Bioinformatics
- IEEE Transactions on Knowledge and Data Engineering
- IEEE Transactions on Software Engineering
- Information Systems
- Nucleic Acids Research
- VLDB Journal

Panel Discussions, Keynote, Distinguished Lecture Series, and Invited Talks

- "Revenge of the database machines?" Distinguished Lecture Series, Columbia University, September 19, 2022.
- "Towards Hardware-Software Co-Design for Data Processing." Invited CS Colloquium, Northwestern University, October 25, 2017.
- "Towards Hardware-Software Co-Design for Data Processing: A Plea and a Proposal." Invited CS

- Colloquium, Harvard University, October 8, 2015.
- “Rethinking the Utility of Benchmarks: Towards Benchmark as a Service.” Keynote at the Seventh TPC Technology Conference on Performance Evaluation & Benchmarking (TPCTC 2015), Kohala Coast, Hawai’i, August 31, 2015.
 - “Towards hardware-software co-design for data analytics: A plea and a proposal.” Keynote at the Third International Workshop on In-Memory Data Management and Analytics (IMDM), VLDB Workshop, Kohala Coast, Hawai’i, August 31, 2015.
 - “From Data to Insights @ Bare Metal Speed.” Keynote at The ACM SIGMOD Conference on Data Management, Melbourne, Victoria, Australia. June 2, 2015.
 - “Towards hardware-software co-design for data analytics: A plea and a proposal.” Invited talk by SAP and U. Waterloo, Canada. October 15, 2014.
 - “Listening to your startup.” Keynote at Forward Tech Conference at the Forward Festival. August 27, 2014.
 - “Data @ Bare Metal Speed.” CSE Colloquium and Distinguished Lecture Series, 2013-2014, University of San Diego, November 25, 2013.
 - “To startup or not to startup? Academics/Entrepreneurs share their experiences.” In the 39th International Conference on Very Large Data Bases (VLDB), August 29, 2013, Trento, Italy.
 - “How to have a successful research career.” In the PhD workshop at the 39th International Conference on Very Large Data Bases (VLDB), August 30, 2013, Trento, Italy.
 - “Data @ Bare Metal Speed.” Invited talk at the Microsoft Research Faculty Summit 2013, July 15, 2013, Redmond, WA.
 - “Data @ Bare Metal Speed.” Invited talk at the IBM Workshop on Big Data Analytics, June 28, 2013, Thomas J. Watson Research Center, Yorktown Heights, New York.
 - “The Inevitable Inflection Point for Big Data: Toward Energy-Conscious Main Memory Data Processing.” In coordination with the 2012 US and UK Big Data Week at the Adobe Big Data Analytics meetup, June 20, 2012.
 - “Are DBMSs simply dumb data stores for modern applications?” In the First ACM SIGMOD Workshop on Database and Social Networks, June 12, 2011, Athens, Greece.
 - “Cloud Databases: What’s New?” In the 36th International Conference on Very Large Data Bases (VLDB), Sept 15, 2010, Singapore.
 - “Indexing for Success: Effective and Efficient Analysis of Biological Data.” The Bioinformatics Distinguished Lecture Series, May 6, 2009, Ohio University, Athens, OH.
 - “Green Database Computing: Should We Care?” Panel at International Workshop on Data Management on New Hardware (DaMoN), June 28 2009, Providence, RI.
 - “Indexing for Success: Scaling to Handle the Increasing Volume and Complexity of Biological Databases”, Keynote Speaker at Ohio Collaborative Conference on Bioinformatics (OCCBIO), 2008.
 - “Scientific Data Management: An Orphan in the Database Community?” Panel at the 24th International Conference on Data Engineering (ICDE), April 7-12, 2008, Cancún, México, 2008.
 - “Indexing for Success: Effective Index-Based Methods for Querying Biological Sequences,” Panel at the 39th Symposium on the Interface: Computer Science and Statistics. Theme: Systems

Biology, May 25, 2007, Philadelphia, PA.

- “Architecture-conscious databases: sub-optimization or the next big leap?” Panel at International Workshop on Data Management on New Hardware (DaMoN), June 12 2005, Baltimore, Maryland.

Scientific Review Panel

- National Science Foundation (NSF), 2003, 2006.
- National Institutes of Health (NIH), 2003-2004, Member, ZRG1 SSS-H (Computational Biology) Study Section.
- NIH, October 2006, Member, ZLM1 ZH-R (J2) (Special Emphasis Panel) Study Section.
- NIH 2005 – 2008, Member, NIH BDMA (Biodata Management and Analysis) Study Section.
- NIH/NLM 2014, Member, National Library of Medicine Special Emphasis Panel.

TEACHING EXPERIENCE

- CS 564, Database Management Systems: Design and Implementation: S09, S10, S11, S12, S13, F13, S17 (U. Wisconsin).
- CS 764, Topics in Database Management Systems: F08, F09, F10, F11, F12, S14, F16, F17, F19 (U. Wisconsin).
- EECS 281, Data Structures and Algorithms: W03 (U. Michigan).
- EECS 484, Database Management Systems: W00, F00, F01, F03, F05, F07 (U. Michigan).
- EECS 485, Web Database and Information Systems, W05 (U. Michigan).
- EECS 496, Major Design Experience Professionalism, W06 (U. Michigan).
- EECS 584, Advanced Database Management Systems: F99, F02, F04, F07 (U. Michigan).
- EECS 684, Current Topics in Database Management Systems: W01, W02, W04 (U. Michigan).

PUBLICATIONS

Conference Papers

1. Helena Caminal, Yannis Chronis, Tianshu Wu, Jignesh M. Patel, José F. Martínez: Accelerating database analytic query workloads using an associative processor. ISCA 2022: 623-637
2. Elena Milkai, Yannis Chronis, Kevin P. Gaffney, Zhihan Guo, Jignesh M. Patel, Xiangyao Yu: How Good is My HTAP System? SIGMOD Conference 2022: 1810-1824
3. Martin Prammer, Suryadev Sahadevan Rajesh, Junda Chen, Jignesh M. Patel: Introducing a Query Acceleration Path for Analytics in SQLite3. CIDR 2022
4. Yunjia Zhang, Yannis Chronis, Jignesh M. Patel, Theodoros Rekatsinas: Can Transfer Learning be used to build a Query Optimizer? CIDR 2022
5. Harshad Deshmukh, Bruhathi Sundarmurthy, Jignesh M. Patel: On inter-operator data transfers in query processing. ICDE 2022: 820-832
6. Zubeyr F. Eryilmaz, Aarati Kakaraparthi, Jignesh M. Patel, Rathijit Sen, Kwanghyun Park: FPGA for Aggregate Processing: The Good, The Bad, and The Ugly. ICDE 2021: 1044-1055
7. Adalbert Gerald Soosai Raj, Pan Gu, Eda Zhang, Arockia Xavier Annie Rayan, Jim Williams, Richard

- Halverson, Jignesh M. Patel: Live-coding vs Static Code Examples: Which is better with respect to Student Learning and Cognitive Load? ACE 2020: 152-159
8. Zuyu Zhang, Harshad Deshmukh, Jignesh M. Patel: Data Partitioning for In-Memory Systems: Myths, Challenges, and Opportunities. CIDR 2019
 9. Adalbert Gerald Soosai Raj, Eda Zhang, Saswati Mukherjee, Jim Williams, Richard Halverson, Jignesh M. Patel: Effect of Native Language on Student Learning and Classroom Interaction in an Operating Systems Course. ITiCSE 2019: 499-505
 10. Adalbert Gerald Soosai Raj, Hanqi Zhang, Viren Abhyankar, Saswati Mukherjee, Eda Zhang, Jim Williams, Richard Halverson, Jignesh M. Patel: Impact of Bilingual CS Education on Student Learning and Engagement in a Data Structures Course. Koli Calling 2019: 24:1-24:10
 11. Peter Van Sandt, Yannic Chronis, Jignesh M. Patel: Efficiently Searching In-Memory Sorted Arrays: Revenge of the Interpolation Search? SIGMOD Conference 2019: 36-53
 12. Fengan Li, Lingjiao Chen, Yijing Zeng, Arun Kumar, Xi Wu, Jeffrey F. Naughton, Jignesh M. Patel: Tuple-oriented Compression for Large-scale Mini-batch Stochastic Gradient Descent. SIGMOD Conference 2019: 1517-1534
 13. Adalbert Gerald Soosai Raj, Varun Naik, Jignesh M. Patel, Richard Halverson: How to teach "modern C++" to someone who already knows programming? ACE 2018: 97-104
 14. Adalbert Gerald Soosai Raj, Jignesh M. Patel, Richard Halverson, Erica Rosenfeld Halverson: Role of Live-coding in Learning Introductory Programming. Koli Calling 2018: 13:1-13:8
 15. Adalbert Gerald Soosai Raj, Jignesh M. Patel, Richard Halverson: Is More Active Always Better for Teaching Introductory Programming? LaTiCE 2018: 103-109
 16. Rogers Jeffrey Leo John, Jignesh M. Patel, Andrew L. Alexander, Vikas Singh, Nagesh Adluru: A Natural Language Interface for Dissemination of Reproducible Biomedical Data Science. MICCAI (4) 2018: 197-205
 17. Adalbert Gerald Soosai Raj, Kasama Ketsuriyonk, Jignesh M. Patel, Richard Halverson: Does Native Language Play a Role in Learning a Programming Language? SIGCSE 2018: 417-422
 18. Harshad Deshmukh, Hakan Memisoglu, Jignesh M. Patel: Adaptive Concurrent Query Execution Framework for an Analytical In-Memory Database System. BigData Congress 2017: 23-30
 19. Rogers Jeffrey Leo John, Navneet Potti, Jignesh M. Patel: Ava: From Data to Insights Through Conversations. CIDR 2017
 20. Lalitha Viswanathan, Bikash Chandra, Willis Lang, Karthik Ramachandra, Jignesh M. Patel, Ajay Kalhan, David J. DeWitt, Alan Halverson: Predictive Provisioning: Efficiently Anticipating Usage in Azure SQL Database. ICDE 2017: 1111-1116
 21. Adalbert Gerald Soosai Raj, Kasama Ketsuriyonk, Jignesh M. Patel, Richard Halverson: What Do Students Feel about Learning Programming Using Both English and Their Native Language? LaTiCE 2017: 1-8
 22. Arun Kumar, Jeffrey F. Naughton, Jignesh M. Patel, Xiaojin Zhu: To Join or Not to Join?: Thinking Twice about Joins before Feature Selection. SIGMOD Conference 2016: 19-34
 23. Avriilia Floratou, Jignesh M. Patel: Replica Placement in Multi-tenant Database Environments. BigData Congress 2015: 246-253 (Best paper award.)
 24. Jing Fan, Adalbert Gerald Soosai Raj, Jignesh M. Patel: The Case Against Specialized Graph Analytics Engines. CIDR 2015
 25. Sanjeev Kulkarni, Nikunj Bhagat, Maosong Fu, Vikas Kedigehalli, Christopher Kellogg, Sailesh

- Mittal, Jignesh M. Patel, Karthik Ramasamy, Siddarth Taneja: Twitter Heron: Stream Processing at Scale. SIGMOD Conference 2015: 239-250
26. Yinan Li, Craig Chasseur, Jignesh M. Patel: A Padded Encoding Scheme to Accelerate Scans by Leveraging Skew. SIGMOD Conference 2015: 1509-1524
 27. Arun Kumar, Jeffrey F. Naughton, Jignesh M. Patel: Learning Generalized Linear Models Over Normalized Data. SIGMOD Conference 2015: 1969-1984
 28. Ankit Toshniwal, Siddarth Taneja, Amit Shukla, Karthikeyan Ramasamy, Jignesh M. Patel, Sanjeev Kulkarni, Jason Jackson, Krishna Gade, Maosong Fu, Jake Donham, Nikunj Bhagat, Sailesh Mittal, Dmitriy V. Ryaboy: Storm@twitter. SIGMOD Conference 2014: 147-156
 29. Ning Zhang, Jun'ichi Tatemura, Jignesh M. Patel, Hakan Hacigümüs: Re-evaluating designs for multi-tenant OLTP workloads on SSD-based I/O subsystems. SIGMOD Conference 2014: 1383-1394
 30. Spyros Blanas, Jignesh M. Patel: Memory footprint matters: efficient equi-join algorithms for main memory data processing. SoCC 2013: 19:1-19:16
 31. Jaeyoung Do, Donghui Zhang, Jignesh M. Patel, David J. DeWitt: Fast peak-to-peak behavior with SSD buffer pool. ICDE 2013: 1129-1140
 32. Yinan Li, Jignesh M. Patel: BitWeaving: fast scans for main memory data processing. SIGMOD Conference 2013: 289-300
 33. Jaeyoung Do, Yang-Suk Kee, Jignesh M. Patel, Chanik Park, Kwanghyun Park, David J. DeWitt: Query processing on smart SSDs: opportunities and challenges. SIGMOD Conference 2013: 1221-1230
 34. Willis Lang, Srinath Shankar, Jignesh M. Patel, Ajay Kalhan: Towards Multi-tenant Performance SLOs. ICDE 2012: 702-713 (Selected as the best papers in the conference, ICDE 2012.)
 35. Spyros Blanas, Yinan Li, Jignesh M. Patel: Design and evaluation of main memory hash join algorithms for multi-core CPUs. SIGMOD Conference 2011: 37-48
 36. Yinan Li, Allison Terrell, Jignesh M. Patel: WHAM: a high-throughput sequence alignment method. SIGMOD Conference 2011: 445-456 (Selected as the best papers in the conference, SIGMOD 2011.)
 37. Wen Jin, Jignesh M. Patel: Efficient and generic evaluation of ranked queries. SIGMOD Conference 2011: 601-612
 38. Jaeyoung Do, Donghui Zhang, Jignesh M. Patel, David J. DeWitt, Jeffrey F. Naughton, Alan Halverson: Turbocharging DBMS buffer pool using SSDs. SIGMOD Conference 2011: 1113-1124
 39. Wen Jin, Michael D. Morse, Jignesh M. Patel, Martin Ester, Zengjian Hu: Evaluating skylines in the presence of equijoins. ICDE 2010: 249-260
 40. Avriella Floratou, Sandeep Tata, Jignesh M. Patel: Efficient and accurate discovery of patterns in sequence datasets. ICDE 2010: 461-472 (Selected as the best papers in the conference, ICDE 2010.)
 41. Ning Zhang, Yuanyuan Tian, Jignesh M. Patel: Discovery-driven graph summarization. ICDE 2010: 880-891
 42. Wen Jin, Kristen LeFevre, Jignesh M. Patel: An online framework for publishing privacy-sensitive location traces. MobiDE 2010: 1-8
 43. Spyros Blanas, Jignesh M. Patel, Vuk Ercegovic, Jun Rao, Eugene J. Shekita, Yuanyuan Tian: A comparison of join algorithms for log processing in MapReduce. SIGMOD Conference 2010:

975-986

44. Willis Lang, Jignesh M. Patel: Towards Eco-friendly Database Management Systems. CIDR 2009
45. Yun Chen, Jignesh M. Patel: Design and evaluation of trajectory join algorithms. GIS 2009: 266-275
46. Yuanyuan Tian, Jignesh M. Patel: TALE: A Tool for Approximate Large Graph Matching. ICDE 2008: 963-972
47. Mark A. Iwen, Willis Lang, Jignesh M. Patel: Scalable Rule-Based Gene Expression Data Classification. ICDE 2008: 1062-1071
48. Sandeep Tata, Jignesh M. Patel: FLAME: Shedding Light on Hidden Frequent Patterns in Sequence Datasets. ICDE 2008: 1343-1345
49. Yuanyuan Tian, Richard A. Hankins, Jignesh M. Patel: Efficient aggregation for graph summarization. SIGMOD Conference 2008: 567-580
50. You Jung Kim, Jignesh M. Patel: Rethinking Choices for Multi-dimensional Point Indexing: Making the Case for the Often Ignored Quadtree. CIDR 2007: 281-291
51. Yun Chen, Jignesh M. Patel: Efficient Evaluation of All-Nearest-Neighbor Queries. ICDE 2007: 1056-1065
52. Stelios Paparizos, Jignesh M. Patel, H. V. Jagadish: SIGOPT: Using Schema to Optimize XML Query Processing. ICDE 2007: 1456-1460
53. Michael D. Morse, Jignesh M. Patel: An efficient and accurate method for evaluating time series similarity. SIGMOD Conference 2007: 569-580
54. Michael D. Morse, Jignesh M. Patel, H. V. Jagadish: Efficient Skyline Computation over Low-Cardinality Domains. VLDB 2007: 267-278
55. Sandeep Tata, Willis Lang, Jignesh M. Patel: Periscope/SQ: Interactive Exploration of Biological Sequence Databases. VLDB 2007: 1406-1409
56. Sandeep Tata, Jignesh M. Patel, James S. Friedman, Anand Swaroop: Declarative Querying for Biological Sequences. ICDE 2006: 87
57. Michael D. Morse, Jignesh M. Patel, William I. Grosky: Efficient Continuous Skyline Computation. ICDE 2006: 108
58. Sushant Sinha, Farnam Jahanian, Jignesh M. Patel: WIND: Workload-Aware INtrusion Detection. RAID 2006: 290-310
59. Jignesh M. Patel, Yun Chen, V. Prasad Chakka: STRIPES: An Efficient Index for Predicted Trajectories. SIGMOD Conference 2004: 637-646
60. Sandeep Tata, Richard A. Hankins, Jignesh M. Patel: Practical Suffix Tree Construction. VLDB 2004: 36-47
61. V. Prasad Chakka, Adam Everspaugh, Jignesh M. Patel: Indexing Large Trajectory Data Sets With SETI. CIDR 2003
62. Yuqing Wu, Jignesh M. Patel, H. V. Jagadish: Structural Join Order Selection for XML Query Optimization. ICDE 2003: 443-454
63. Richard A. Hankins, Jignesh M. Patel: Effect of node size on the performance of cache-conscious B+-trees. SIGMETRICS 2003: 283-294
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5. Avriela Floratou, Jignesh M. Patel, Willis Lang, Alan Halverson: When Free Is Not Really Free: What Does It Cost to Run a Database Workload in the Cloud? *TPCTC 2011*: 163-179
6. Willis Lang, Jignesh M. Patel, Srinath Shankar: Wimpy node clusters: what about non-wimpy workloads? *DaMoN 2010*: 47-55 (Best paper award.)
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5. Y. Li and J. M. Patel. "Database system with highly denormalized database structure." U. S. Patent US9870401B2. Issued January 16, 2018.
6. Y. Li and J. M. Patel. "Database system with data organization providing improved bit parallel processing." U. S. Patent 9,002,903. Issued April 7, 2015.

7. J. M. Patel, Y. Chen, and K. Ramasamy. "Location tracking framework." U. S. Patent 8,447,320. Issued May 21, 2013.
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GRADUATE STUDENTS AND POST-DOCTORAL STUDENTS ADVISED

Graduated Ph.D. Students

1. Yannis Chronis, June 2022, *Data Processing in the Modern Hardware Landscape*. First employment: Google.
2. Rogers Jeffrey Leo John, May 2021, *From Data to Insights Through Conversations*. First employment: DataChat (as co-founder).
3. Zuyu Zhang, October 2019, *Towards Efficient Data Processing Methods for In-memory architectures*. First employment: Amazon.
4. Adalbert Gerald Soosai Raj, May 2019, *Effect of Bilingual Education and Live-coding on Student Learning and Engagement in Teaching and Learning Computer Science*. First employment: University of California, San Diego.
5. Jianqiao Zhu, January 2019, *Towards Interactive Methods for Gathering Insights from Data*. First employment: Google.
6. Harshad Deshmukh, August 2018, *Efficient Query Scheduling*. First employment: Google.
7. Navneet Potti, August 2018, *Improving the Usability of Data Analytics Systems*. First employment: Google.
8. KwangHyun Park, August 2016, *Data Processing Using Flash Storage: Some Opportunities and Limitations*. First employment: Microsoft.

9. Arun Kumar, August 2016, *Learning Over Joins*. First employment: University of California, San Diego. (Co-advised with Jeff Naughton.)
10. Craig Chasseur, September 2015, *A Bare-Metal Approach to Database Performance on Contemporary Hardware*. First employment: Pivotal.
11. Yinan Li, August 2015, *Analytic Query Processing at Bare Metal Speeds*. First employment: Microsoft Research.
12. Spyros Blanas, August 2013, *High-performance main memory database management*. First employment: Ohio State University.
13. Avriela Floratou, August 2013, *High-Performance Cloud Data Management*. First employment: IBM Almaden Research Center.
14. Ning Zhang, December 2012, *Towards Cost-Effective Resources Provisioning for DBMS and Storage Clouds*. First employment: NEC Laboratories.
15. Jae Young Do, November 2012, *The Role of Flash Memory in Database Management Systems*. First employment: Microsoft.
16. Willis Lang, August 2012, *Cost-Effective Cloud Data Processing*. First employment: Microsoft Gray Systems Lab (GSL).
17. Yuanyuan Tian, August 2008, *Querying Graph Databases*. First employment: IBM Almaden Research Center.
18. You Jung Kim, August 2008, *Efficient Index-based Methods for Processing Large Biological Databases*. First employment: Oracle.
19. Yun Chen, December 2007, *Efficient Query Processing for Spatio-Temporal Databases*. First employment: eBay.
20. Sandeep Tata, August 2007, *Declarative Querying for Biological Sequences*. First employment: IBM Almaden Research Center.
21. Michael Morse (co-advised), August 2007, *Efficient Algorithms for Similarity and Skyline Summary on Multidimensional Datasets*. First employment: MITRE Corp.
22. Richard A. Hankins, May 2004, *Architecture-Conscious Storage Management*. First employment: Intel Microprocessor Research Lab.
23. Kanda Runapongsa, July 2003, *Methods for Efficient Storage and Indexing in XML Databases*. First employment: Khon Kaen University, Thailand.

Current Ph.D. Students

1. Kevin Gaffney.
2. Aarti Kakaraparthi.
3. Elena Milkai (co-advised with Xiangyao Yu).
4. Kendall Park (co-advised with David Schneider).
5. Matthew Prammer.
6. Ling Zhang.
7. Yunjia Zhang (co-advised with Theodoros Rekatsinas).

Past M.S. Students

1. Dylan Bacon, 2022; first employment: DataChat.

2. Junda Chen, 2021; first employment: DataChat.
3. Anuja Golechha, 2019; first employment: Google.
4. Robert Claus, 2018; first employment: MyMo.
5. Saket Saurabh, 2017; first employment: Nutanix.
6. Lalitha Viswanathan, 2017; first employment: Microsoft.
7. Marc Spehlmann, 2017; first employment: Autonomic Inc.
8. Qiang Zeng, 2015; first employment: Google.
9. Frank Bertsch, 2015; first employment: Innovative Software Engineering.
10. Shoban P. Chandrabose, 2015; first employment: Google.
11. Jing Fan, 2015.
12. James Paton, 2014; first employment: Facebook.
13. Anusha Dasarakothapalli, 2014; first employment: Amazon.
14. Vinitha Gankidi, 2014; first employment: LinkedIn.
15. Shriram Shridharan, 2014; first employment: Amazon
16. Ramakrishnan Kandhan, 2010; first employment: Google.
17. Nikhil Teletia, 2010; first employment: Microsoft.
18. Su Liu, 2008; first employment: Microsoft.
19. Shruti Kasetty, May 2004; first employment: Microsoft.
20. Andrew McClory, May 2003; first employment: FactSet Research.
21. Venkatasiva P. Chakkabala, August 2003; first employment: Informatica.
22. Laurie Hammel, May 2002; first employment: National Security Agency.

Postdoctoral Students

1. Wen Jin, September 2007-July 2009; first employment: Independent Consultant.
2. Ramakrishna Varadarajan, June 2009-July 2011; first employment: Vertica/HP.