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David Chiu

Curriculum Vitae

Education

2005 – 2010 **PhD, Computer Science and Engineering**
The Ohio State University, Columbus, Ohio
Dissertation: "Automatic Service Planning in Cloud/Grid Environments"
Thesis Advisor: Gagan Agrawal | Systems Group

1998 – 2004 **BS/MS, Computer Science**
Kent State University, Kent, Ohio
Thesis Advisor: Paul S. Wang

Academic Appointments

2022 – **Professor of Computer Science**
Department of Mathematics and Computer Science
University of Puget Sound, Tacoma, Wash.

2017 – 2022 **Associate Professor of Computer Science**
Department of Mathematics and Computer Science
University of Puget Sound, Tacoma, Wash.

2014 – 2017 **Assistant Professor of Computer Science**
Department of Mathematics and Computer Science
University of Puget Sound, Tacoma, Wash.

2010 – 2014 **Assistant Professor of Computer Science**
School of Engineering and Computer Science
Washington State University, Vancouver, Wash.

2005 – 2010 **Graduate Research and Teaching Associate**
Department of Computer Science and Engineering
The Ohio State University, Columbus, Ohio

2002 – 2004 **Graduate Research and Teaching Associate**
Department of Computer Science
Kent State University, Kent, Ohio

Administrative Appointments

2019 – 2022 **Chair of Computer Science**
Department of Mathematics and Computer Science
University of Puget Sound, Tacoma, Wash.

Publications

Note: My research advisees and I are underlined.

Conference and Journal Articles (Acceptance rates listed if known)

SSDBM 2021 S. McClain, M. Mutschler-Aldine, C. Monaghan, D. Chiu, J. Sawin, and P. Jarvis. Caching Support for Range Query Processing on Bitmap Indices. 33rd International Conference on Scientific and Statistical Database Management (SSDBM). Tampa, FL. 2021. ACM. **(59 submitted, 16 accepted, 27.1% acceptance rate).**

DSE 2021 B. Tran, B. Schaffner, J. Myre, J. Sawin, and D. Chiu. Exploring Means to Enhance the Efficiency of GPU Bitmap Index Query Processing. Data Science and Engineering. Vol 6(2). Springer. 2021.

JCC 2020 M. Nelson, Z. Sorenson, J. Myre, J. Sawin, and D. Chiu. Parallel Acceleration of CPU and GPU Range Queries over Large Data Sets. Journal of Cloud Computing. Vol 9(44). Springer. 2020.

DASFAA 2020 B. Tran, B. Schaffner, J. Sawin, J. Myre, and D. Chiu. Increasing the Efficiency of GPU Bitmap Index Query Processing. 25th International Conference on Database Systems for Advanced Applications (DASFAA'20). JeJu, South Korea. 2020. **(487 submitted, 121 accepted, 25% acceptance rate).**

BDCAT 2019 M. Nelson, Z. Sorenson, J. Myre, J. Sawin, and D. Chiu. GPU Acceleration of Range Queries over Large Data Sets. Proceedings of the 6th IEEE/ACM International Conference on Big Data Computing, Application, and Technologies (BDCAT'19). Auckland, New Zealand. 2019. **(47 submitted, 13 accepted, 27.7% acceptance rate). Best Paper Finalist (1 of 3)**

CLOUD 2019 J. Polonitza, D. Chiu, and B. Ren. A Transactional Framework for Broadening Access to Geo-Diversification. Proceedings of the 12th IEEE International Conference on Cloud Computing (Cloud'19). Milan, Italy. 2019. **(139 submitted, 29 accepted as short papers, 26% short-paper acceptance rate)**

BDCAT 2018 S. Burdick, J. Risner, D. Chiu, and J. Sawin. Fault-Tolerant Query Execution over Distributed Bitmap Indices. Proceedings of the 5th IEEE/ACM International Conference on Big Data Computing, Application, and Technologies (BDCAT'18). Zurich, Switzerland. 2018 **(101 submitted, 23 accepted, 22.8% acceptance rate). Best Paper Finalist (1 of 3)**

PES 2018 R. Bass, J. Landford, R. Meier, B. McCamish, E. Cotilla-Sanchez, and D. Chiu. Event Detection Using Correlation within Arrays of Streaming PMU Data. Proceedings of the 2018 IEEE Power and Energy Society General Meetings (PES'18). Portland, OR. 2018.

IDEAS 2017 B. Taufen, J. Sawin, and D. Chiu. Improving the Querying Efficiency of the PLWAH Bitmap Algorithm. 21st International Database Applications and Engineering Symposium (IDEAS'17). Bristol, UK. 2017 **(30% acceptance rate)**

CLOUD 2016 C. Johnson and D. Chiu. Hadoop in Flight: Migrating Live MapReduce Jobs for Power-Shifting Data Centers. 9th IEEE International Conference on Cloud Computing (Cloud'16). San Francisco, CA. 2016 **(327 submitted, 49 accepted, 15% research-track acceptance rate)**

IDEAS 2016 G. Guzun, G. Canahuate, and D. Chiu. A Two-Phase MapReduce Algorithm for Scalable Preference Queries over High-Dimensional Data. In Proceedings of the 20th International Database Engineering and Applications Symposium (IDEAS'16). Montreal, Canada. 2016 **(127 submitted, 19 accepted as full papers, 15% acceptance rate)**

FiCloud 2016 M. Velez, J. Sawin, A. Ingerson, and D. Chiu. Improving Bitmap Execution Performance Using Column-Based Metadata. 4th IEEE International Conference on Future Internet of Things and Cloud (FiCloud'16). Vienna, Austria. 2016 **(30% acceptance rate)**

EPSR 2016 B. McCamish, R. Meier, J. Landford, R. Bass, D. Chiu, and E. Cotilla-Sanchez. A Backend Framework for the Efficient Management of Power System Measurements. Electric Power Systems Research. 2016.

CSN 2016 E. Otsuka, S. Wallace, and D. Chiu. A Hashtag Recommendation System for Twitter Data Streams. Computational Social Networks. Vol 3(3). Springer. 2016.

CCBD 2015 X. Xu, X. Zhao, G. Dunham, D. Chiu, and J. Xu. Modeling Parallel Simulations over Amazon EC2. International Conference on Cloud Computing and Big Data (CCBD'15), Taipei, Taiwan. 2015. **(50% short-paper acceptance rate)**

PACLIC 2015 X. Huang, T. Liu, D. Chiu, X. Li, and T. Zhu. Topic Model for Identifying Suicidal Ideation in Chinese Microblog. 29th Pacific Asia Conference on Language, Information and Computation (PACLIC'15). Shanghai, China. 2015 **(28% acceptance rate)**

ICPADS 2014 B. Wang, X. Zhao, and D. Chiu. Lightweight Online Power Monitoring and Control for Mobile Applications. In Proceedings of the 20th IEEE International Conference on Parallel and Distributed Systems (ICPADS'14), Hsinchu, Taiwan. 2014 **(322 submitted, 97 accepted, 30% acceptance rate)**

IDEAS 2014 R. Slechta, J. Sawin, B. McCamish, D. Chiu, and G. Canahuate. Optimizing Query Execution for Variable-Aligned Length Compression of Bitmap Indices. In Proceedings of the 18th International Database Engineering and Applications Symposium (IDEAS'14), Porto, Portugal. 2014 **(19.7% full-paper acceptance rate)**

IDEAS 2014 E. Otsuka, S. Wallace, and D. Chiu. Design and Evaluation of a Twitter Hashtag Recommendation System. In Proceedings of the 18th International Database Engineering and Applications Symposium (IDEAS'14). Porto, Portugal. 2014. **(short paper; 36% short-paper acceptance rate)**

ICDE 2014 G. Guzun, G. Canahuate, D. Chiu, and J. Sawin. A Tunable Aligned Compression Framework for Bitmap Indices. In Proceedings of the 30th International Conference on Data Engineering (ICDE'14). Chicago, IL. 2014 **(446 submitted, 89 accepted, 19.9% acceptance rate)**

UICW 2014 X. Huang, L. Zhang, D. Chiu, X. Li, and T. Zhu. Detecting Suicide Ideation in Chinese Microblog with Psychological Lexicons. In Proceedings of the 2014 Workshop on Pervasive and Ubiquitous Data Analytics. Held in conjunction with the 11th IEEE International Conference on Ubiquitous Intelligence and Computing.

SusTech 2014 R. Meier, M. Histand, J. Landford, B. McCamish, D. Chiu, R. Bass, and E. Cotilla-Sanchez. Power System Data Management and Analysis Using Synchrophasor Data. In Proceedings of the 2nd IEEE Conference on Technologies for Sustainability (SusTech'14). Portland, OR. 2014

SusTech 2014 B. McCamish, D. Chiu, M. Histand, R. Meier, J. Landford, E. Cotilla-Sanchez, and R. Bass. Managing PMU Data Sets with Bitmap Indexes. In Proceedings of the 2nd IEEE Conference on Technologies for Sustainability (SusTech'14). Portland, OR. 2014

IJNGC 2014 F. Kabir, T. Hall, S. Wallace, and D. Chiu. Elastic Resource Allocation for a Cloud-Based Web Caching System. International Journal of Next-Generation Computing. Vol 5(1). 2014.

JCSC 2013 D. Chiu and S. Wallace. On the Science in Computer Science: Integrating Research Preparedness in Undergraduate CS. Journal of Computing Sciences in Colleges (CCSC-NW). Vol 29(1). 2013.

TSC 2013 D. Chiu and G. Agrawal. Cost and Accuracy Aware Scientific Workflow Composition for Service-Oriented Environments. IEEE Transactions on Services Computing. Vol 6(4). IEEE. 2013.

IDEAS 2013 F. Doan, D. Chiu, B. Perez Lukes, J. Sawin, G. Guzun, and G. Canahuate. Dynamic Bitmap Recompression through Workload-Based Optimizations. In Proceedings of the 17th International Database Engineering and Applications Symposium (IDEAS'13). Barcelona, Spain. 2013 **(113 submitted, 14 accepted 12.4% full paper acceptance rate)**

DMC 2013 Y. Li, D. Chiu, C. Liu, L. T. X. Phan, T. Gill, S. Aggarwal, Z. Zhang, B. T. Loo, D. Maier, and B. McManus. Towards Dynamic Pricing-Based Collaborative Optimizations for Green Data Centers. In Proceedings of the 2nd International Workshop on Data Management in the Cloud (DMC'13). Workshop Proceedings of ICDE. Brisbane, Australia.

IPDPS 2013 T. Biçer, J. Yin, D. Chiu, G. Agrawal, and K. Schuchardt. A Compression System for Accelerating Large-Scale Data Analytics Applications. In Proceedings of the 27th IEEE International Parallel and Distributed Processing Symposium (IPDPS'13). Boston, MA. 2013 **(494 submitted, 106 accepted, 21% acceptance rate)**

CSC 2012 F. Kabir and D. Chiu. Reconciling Cost and Performance Objectives for Elastic Web Caches. In Proceedings of the 2012 IEEE International Conference on Cloud and Services Computing (CSC'12). Shanghai, China. 2012 **(110 submitted, 36 accepted, 33% acceptance rate)**

CCGRID 2012 T. Biçer, D. Chiu, and G. Agrawal. Time and Cost Sensitive Data-Intensive Computing on Hybrid Clouds. In Proceedings of the 2012 IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid'12). Ottawa, Canada. 2012 **(302 submitted, 83 accepted, 27% acceptance rate)**

PER 2012 D. Chiu, C. Stewart, and B. McManus. Electric Grid Balancing through Low-Cost Workload Migration. ACM SIGMETRICS Performance Evaluation Review. Vol 40(3). ACM. 2012.

CPE 2012 V. T. Ravi, W. Ma, D. Chiu, and G. Agrawal. Compiler and Runtime Support for Enabling Reduction Computations on Heterogeneous Systems. Concurrency and Computation: Practice and Experience. Vol 24(5). Wiley. April, 2012.

IJNGC 2011 D. Chiu, T. Hall, F. Kabir, A. Shetty, and G. Agrawal. Analyzing Costs and Optimizations for an Elastic Key-Value Store on Amazon Web Services. International Journal on Next-Generation Computing Vol. 2(2). Special Issue on Cloud Computing. July 2011.

DEXA 2011 F. Corrales, D. Chiu, and J. Sawin. Variable Length Compression for Bitmap Indices. In Proceedings of the 22nd International Conference on Database and Expert Systems Applications (DEXA'11). Toulouse, France. 2011 **(356 submitted, 89 accepted, 25% acceptance rate)**

IDEAS 2011 D. Chiu, T. Hall, F. Kabir, and G. Agrawal. An Approach towards Automatic Workflow Composition through Information Retrieval. In Proceedings of the 15th International Database Engineering and Applications Symposium (IDEAS'11). Lisbon, Portugal. 2011 **(130 submitted, 20 accepted as full papers, 15.4% acceptance rate)**

CLUSTER 2011 T. Biçer, D. Chiu, and G. Agrawal. A Framework for Data-Intensive Computing with Cloud Bursting. In Proceedings of the 2011 IEEE International Conference on Cluster Computing (Cluster'11). Austin, TX. 2011 **(28% acceptance rate)**

CCGRID 2011 D. Chiu, A. Shetty, and G. Agrawal. Evaluating and Optimizing Indexing Schemes for a Cloud-based Elastic Key-Value Store. In Proceedings of the 11th IEEE/ACM Symposium on Cluster, Cloud, and Grid Computing (CCGrid'11). Newport Beach, CA. 2011. **(189 submitted, 55 accepted, 29% acceptance rate)**

MTAGS 2011 T. Biçer, D. Chiu, and G. Agrawal. MATE-EC2: A Middleware for Processing Data with AWS. 4th International Workshop on Many-Task Computing on Grids and Supercomputers (MTAGS'11). Seattle, WA. 2011 **Invited Paper**.

SC 2010 D. Chiu, A. Shetty, and G. Agrawal. Elastic Cloud Caches for Accelerating Service-Oriented Computations. In Proceedings of the 23rd ACM/IEEE International Conference on High Performance Computing Networking, Storage and Analysis (SC'10). New Orleans, LA. 2010. **(253 submitted, 51 accepted, 20% acceptance rate)**

GRID 2010 D. Chiu and G. Agrawal. Evaluating Caching and Storage Options on the Amazon Web Service Cloud. In Proceedings of the 11th ACM/IEEE International Conference on Grid Computing (GRID'10). Brussels, Belgium. 2010. **(124 submitted, 28 accepted, 22.6% acceptance rate)**

ICS 2010 V. T. Ravi, W. Ma, D. Chiu, and G. Agrawal. Compiler and Runtime Support for Enabling Generalized Reduction Computations on Heterogeneous Parallel Configurations. In Proceedings of the 24th ACM/SIGARCH International Conference on Supercomputing (ICS'10). Tsukuba, Japan. 2010. **(180 submitted, 32 accepted, 17.8% acceptance rate)**

XRDS 2010 D. Chiu. Profile Hiroshi Ishii: Tangible Bits. ACM Crossroads. 16(4), 2010.

XRDS 2010 D. Chiu. Elasticity in the Cloud. ACM Crossroads. 16(3), 2010.

ICWS 2009 D. Chiu, S. Deshpande, G. Agrawal, and R. Li. A Dynamic Approach toward QoS-Aware Service Workflow Composition. In Proceedings of the 7th IEEE International Conference on Web Services (ICWS'09). Los Angeles, CA. 2009. **(18% acceptance rate)**

SSDBM 2009 D. Chiu and G. Agrawal. Enabling Ad Hoc Queries over Low-Level Scientific Data Sets. In Proceedings of the 21st International Conference on Scientific and Statistical Database Management (SSDBM'09). New Orleans, LA. 2009. **(76 submitted, 29 accepted, 38% acceptance rate)**

CCGRID 2009 D. Chiu and G. Agrawal. Hierarchical Caches for Grid Workflows. In Proceedings of the 9th IEEE/ACM Symposium on Cluster Computing and the Grid (CCGrid'09). Shanghai, China. 2009. **(271 submitted, 57 accepted, 21% acceptance rate)**

GRID 2008 D. Chiu, S. Deshpande, G. Agrawal, and R. Li. Cost and Accuracy Sensitive Dynamic Workflow Composition over Grid Environments. In Proceedings of the 9th IEEE/ACM International Conference on Grid Computing (GRID'08). Tsukuba, Japan. 2008. **(176 submitted, 35 accepted, 19.8% acceptance rate)**

XRDS 2008 D. Chiu. On Teaching Computer Science: Thoughts and Advice for TAs. ACM Crossroads. 15(2), 2008.

DSMM 2007 F. Altiparmak, D. Chiu, and H. Ferhatosmanoglu. Incremental Quantization for Aging Data Streams. ICDM Workshop on Data Stream Mining and Management (DSMM'07). Omaha, NE. 2007

ITCC 2004 D. Chiu. Web-based Mathematics Education with MathChat. In Proceedings of the IEEE International Conference on Information Technology: Coding and Computing (ITCC'04). Las Vegas, NV. 2004. **Best Student Paper Award**.

IAMC 2003 D. Chiu, Y. Zhou, X. Zhu, and P. S. Wang. Design, Implementation, and Processing Support of MeML. ACM ISSAC Workshop on Internet Accessible Mathematics Computation (IAMC'03). Philadelphia, PA. 2003.

Posters and Poster Papers

CCSC 2018 J. Polonitza and D. Chiu. Towards a Transactive Future. 20th Consortium for Computing Sciences in Colleges (CCSC-NW 2018). **Best Poster Runner-up**.

CCSC 2018 S. Walling-Bell and D. Chiu. EEG Experiment Scripting Tool for Novice Programmers. 20th Consortium for Computing Sciences in Colleges (CCSC-NW 2018).

ICAC 2017 A. Ingerson, D. Chiu, and J. Sawin. Cache-Friendly Bitmap Compression on Symmetric Multiprocessors. 14th IEEE International Conference on Autonomic Computing (ICAC 2017). Columbus, Ohio.

CCSC 2016 R. Hirsch and D. Chiu. Live Data Compression, Caching, and Querying of Bitmap Indices. 18th Consortium for Computing Sciences in Colleges (CCSC-NW 2016)

CCSC 2015 A. Ingerson and D. Chiu. Improving the Performance of Parallelized Bitmap Index Compression through Data Striping. 17th Consortium for Computing Sciences in Colleges (CCSC-NW 2015). **Best Poster Award**.

SPLASH 2015 B. McCamish, X. Zhao, D. Chiu, J. Sawin, and G. Canahuate. Evaluating Work Distribution Patterns for Parallel Bitmap Compression for SMPs. ACM SIGPLAN conference on Systems, Programming, Languages and Applications: Software for Humanity (SPLASH'15)

MobiSys 2014 B. Wang, X. Zhao, and D. Chiu. A Power-Aware Mobile App for Field Scientists. 12th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys'14)

EDUPAR 2014 X. Zhao, S. Wallace, and D. Chiu. Integrating PDC Topics in Multiple Levels of CS Courses at WSU Vancouver. NSF/TCPP Workshop on Parallel and Distributed Computing Education (EduPar'14), in conjunction with IPDPS'14

WSUV 2013 G. Dunham, D. Chiu, X. Zhao, and J. Xu. Resource Allocation for Molecular Simulations Using Cloud Computations. WSU Vancouver Research Showcase 2013. **Best Undergraduate Poster Award.**

SSDBM 2011 D. Chiu, T. Hall, F. Kabir, and G. Agrawal. Keyword Search Support for Automating Scientific Workflow Composition. In Proceedings of the 23rd International Conference on Scientific and Statistical Database Management (SSDBM'11). Portland, OR. 2011

SC 2011 T. Biçer, D. Chiu, and G. Agrawal. A Framework for Data-Intensive Computing with Cloud Bursting. 24th ACM/IEEE International Conference on High Performance Computing Networking, Storage and Analysis. Seattle, WA. 2011

SC,GHC 2011 F. Kabir and D. Chiu. A Self-Managed Cloud Cache for Accelerating Data-Intensive Applications. 24th ACM/IEEE International Conference on High Performance Computing Networking, Storage and Analysis; Also, Grace Hopper Celebration

GIS 2008 D. Chiu, S. Deshpande, G. Agrawal, and R. Li. Composing Geoinformatics Workflows with User Preferences. In Proceedings of the 16th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (GIS'08). Irvine, CA. 2008

eScience 2007 D. Chiu and G. Agrawal. Ad Hoc Scientific Workflows through Data-driven Service Composition. 2007 Microsoft eScience Workshop. RENCI, Chapel Hill, NC. 2007

Book Chapters

2010 D. Chiu and G. Agrawal. Auspice: Automatic Service Planning in Cloud/Grid Environments. Book Chapter in Grids, Clouds, and Virtualization. Massimo Cafaro and Giovanni Aloisio (Eds.), Springer-Verlag. 2010

RESEARCH STUDENT ADVISING

Research Alumni and First Employment (If Known)

2022 **Colin Monaghan (BS'22)**, Flock Freight
"New Replacement Policies for Semantic Database Caching"

2021 **Manya Mutschler-Aldine (BS'21)**
"Implementation and Evaluation of MIN and CLOCK for Bitmap Caching"

2020 **Sarah Walling-Bell (BS'20)**, Center for Neurotechnology @ UW
"EEG Experiment Scripting Tool for Novice Programmers"

2020 **Sarah McClain (BS'20)**, Panorama Education, Boston
"Toward Semantic Caching of Bitmap Indices"

2019 **Jared Polonitza (BS'19)**, Chalice Network
"Toward a Transactive Energy Future"

2018 **Sam Burdick (BS'18)**, Amazon Web Services (AWS)
"Fault-Tolerant Query Execution over Distributed Bitmap Indices"

2018 **Jahrme Risner (BS'18)**, Google
"Fault-Tolerant Query Execution over Distributed Bitmap Indices"

2018 **Patrick Ryan (BS'18)**, T-Mobile, Bellevue
"Optimizing Byte-Aligned Bitmap Code"

2018 **Jack Burns (BS'18)**, Loopie
"An Optimal Bitmap Binning Method for Resolving Aggregate Queries"

2018 **Jiawen (Christine) Li (BS'18)**, Student at Columbia University
"Modeling Power Usage of Bitmap Processing Algorithms"

2017 **Chili Johnson (BS'17)**
"Hadoop Migration for Energy Conservation"

2017 **Rachel Hirsch (BS'17)**, Student at Colorado State University
"Live Data Compression, Caching, and Querying of Bitmap Indices"

2016 **Alexia Ingerson (BS'16)**, Intel, Hillsboro
"Analyzing Caching Patterns for Bitmap Processing"

2016 **Brandon Roberts (BS'16)**, Milliman – MedInsight
"Mobile Applications for ICD9/10 Conversions"

2015 **Ben McCamish (MS'15)**, Clinical Professor at Washington State University
"Managing PMU Data Sets with Bitmap Indexes"

2014 **Bo Wang (MS'14)**, Microsoft, Redmond
"Design & Implementation of an Energy-Aware App for Scientific Field Studies"

2014 **Eriko Otsuka (MS'14)**, Clark College
"Design and Evaluation of a Twitter Hashtag Recommendation System"

2014 **Gabriel Dunham (BS'14)**, Plexsys
"Modeling Parallel Molecular Simulations on Amazon EC2"

2014 **Sean Lim (BS'14)**, Dell EMC, Seattle
"SkySurvey Data Collection and Analysis"

2014 **Helena Lucia (BS'14)**, Intel, Hillsboro
"An Android Mobile App for Barcode-Based Search of Food Allergies"

2013 **Fredton Doan (MS'13)**, Clark County Washington
"Workload-Driven Bitmap Recompression for Real-Time Query Acceleration"

2012 **Farhana Kabir (MS'12)**, Intel, Hillsboro
"Reconciling Cost and Performance Objectives for Elastic Web Caches"

2012 **Travis Hall (MS'12)**, VMware, Seattle
"A Cost-Driven Replacement Policy for a Hierarchical Key-Value Store"

2012 **Skylar Hiebert (BS'12)**, WebTrends, Portland
"FreeQuiz"

Other Students (As Thesis Committee Member)

2016 Xiaolei Huang (MS'16, Chinese Academy of Sciences)

2014 Miles Histand (BS'14, Portland State University)

2014 Tekin Biçer (PhD'14, The Ohio State University)

2014 Huy Tran (MS'14, WSU Vancouver)

2014 Hoang Le (MS'14, WSU Vancouver)

2013 Evan Dickinson (MS'13, WSU Vancouver)

2013 Sanchit Aggarwal (MS'13, University of Pennsylvania)

2011 Matt Henry (MS'11, WSU Vancouver)

2011 Fabian Corrales (BS'11, University of Puget Sound)

2010 Gang Lu (MS'10, WSU Vancouver)

2010 Apeksha Shetty (MS'10, The Ohio State University)

Grants

2022 **Student Travel Support for IEEE/ACM UCC 2022 and BDCAT 2022**, National Science Foundation (co-PI): $32,000

2022 **NSF XSEDE Educational Grant**, The Extreme Science and Engineering Discovery Environment IU (Jetstream2): 200,000 SUs (≈ $3,250)

2021 **NSF XSEDE Educational Grant**, The Extreme Science and Engineering Discovery Environment IU/TACC (Jetstream): 70,000 SUs (≈ $1,400)

2020 **Agricola Faculty Research Award**, University of Puget Sound ($1,000)

2020 **Burlington Northern Curriculum Development Grant**. "Data Science Major." University of Puget Sound ($6,540)

2020 **NSF XSEDE Educational Grant**, The Extreme Science and Engineering Discovery Environment IU/TACC (Jetstream): 60,480 SUs (≈ $1,209.60)

2020 **Lind-Van Enkevort (LvE) Award**, with A. Chambers. "Software Engineering curriculum." University of Puget Sound ($6,000)

2019 **NSF XSEDE Educational Grant**, The Extreme Science and Engineering Discovery Environment 45,000 SUs (≈ $6,700.50)

2018 **UEC Travel Grant**, University of Puget Sound ($1,350)

2017 **Lind-Van Enkevort (LvE) Award**, University of Puget Sound ($4,500)

2017 **UEC Travel Grant**, University of Puget Sound ($1,350)

2017 **Travel Grant**, IEEE International Conference on Autonomic Computing (ICAC)

2016 **Lind-Van Enkevort (LvE) Award**, University of Puget Sound (∼$6000)

2016 **UEC Travel Grant**, University of Puget Sound ($1,570)

2016 **UEC Travel Grant**, University of Puget Sound ($1,020)

2015 **McCormick Faculty Research Award**, University of Puget Sound ($4,000)

2015 **GooeySoft Analytics Grant** ($7,954)

2015 **Amazon Education Grant**: "Database Systems" ($2,500)

2014 **UEC Travel Grant**, University of Puget Sound ($1,350)

2013 **Schweitzer Engineering Labs (SEL)** SyncrhoWAVE Software Donation ($5,000)

2013 **Oregon BEST Center**: "BPA Special Study on Synchrophasors: Big Data" with R. Bass and E. Cotilla-Sanchez ($69,504)

2013 **NSF TPCC Early Adopter Award**, with X. Zhao and S. Wallace. ($2,500)

2012 **Amazon Education Grant**: "Web Data Management" ($3,000)

2012 **Amazon Education Grant**: "Operating Systems" ($1,500)

2011 **Amazon Education Grant**: "Web Data Management" ($2,100)

2011 **WSU New Faculty Seed Research Grant**: "Accelerating Large-Scale Workflow Processes over a Cloud Environment" ($17,057)

2011 **WSU Vancouver Mini Research Grant**: "A Self-Tuning Bitmap Compression Framework for Fast Data Processing" ($2,770)

2011 **M.J. Murdock Charitable Trust Grant**: "Interdisciplinary Renewable Energy Option Track" with W. Xue, S. Solivitz, and H. Gurocak ($250,490)

2011 **Broader Engagement and Mentoring Grant**: SC'12. (∼$2,000)

2010 **Amazon Research Grant**: "Cloud-Based Strategies for Accelerating Scientific Computing" ($7,500)

2010 **Amazon Education Grant**: "Web Data Management" ($2,000)

2010 **Broader Engagement and Mentoring Grant**: SC'11. (∼$2,000)

Teaching Experience

2014 – **University of Puget Sound**

Introduction to Computer Science

Computer Science II

Software Engineering

Principles of Database Systems

Operating Systems

Capstone in Computer Science

2010 – 2014 **WSU Vancouver**

Introduction to Database Systems

Web Data Management

Operating Systems

Advanced Topics: High-Performance Computing (Graduate Level)

2005 – 2010 **The Ohio State University**

Elementary Programming

Introduction to Programming and Algorithms for Scientists and Engineers

2003 – 2004 **Kent State University**

Computer Literacy

Introduction to Computer Science

Service to University

Elected or Appointed Positions

2023 - present **Student of Color Resident Community (SCRC) Faculty Advisor**, University of Puget Sound (appointed by Provost)

2019 - 2022 **Chair of Computer Science**, University of Puget Sound (appointed by Provost)

2021 - 2022 **Executive Vice President and CFO Search Committee**, University of Puget Sound (appointed by President)

2018 - 2020 **Curriculum Task Force (CTF)**, University of Puget Sound (elected)

2011 - 2014 **Graduate Studies Chair**, Computer Science, WSU Vancouver (appointed

University Committees

2021 - 2022 **Student Life Committee**, University of Puget Sound

2020 - 2021 **Lantz Sabbatical Awards Committee**, University of Puget Sound

2020 - 2021 **High Impact Practices Committee**, (Continued work of the CTF — Established the *"Experiential Learning"* graduation requirement), University of Puget Sound

2015 - 2018 **Curriculum Committee**, University of Puget Sound

2017 - 2018 **Alumni Mentoring Exploratory Committee**, University of Puget Sound

2017 - 2018 **Data Analytics Faculty Workgroup**, University of Puget Sound

2016 - 2017 **Faculty Senate (replacement term)**, University of Puget Sound

2011 - 2014 **University Scholars (Honors) Faculty Advisor**, WSU Vancouver

2009 - 2010 **Graduate Steering Committee**, The Ohio State University

2007 - 2008 **Council of Graduate Students**, The Ohio State University

Department Committees

2022 - 2023 **Mathematics Search Committee**, University of Puget Sound

2020 - 2021 **Data Science Major Committee (Chair)**, University of Puget Sound

2020 - 2021 **Data Science Search Committee (Chair)**, University of Puget Sound

2021 - 2022 **Computer Science Search Committee**, University of Puget Sound

2014 - 2015 **Lind-Van Enkevort (LvE) Award Committee**, University of Puget Sound

2014 - 2015 **Computer Science Search Committee**, University of Puget Sound

Campus Engagement

2022 **Speaker**, *"Bitmap Indexing for the Management of Big Data,"*. Visible Spectrum's 7th Annual Research Symposium, University of Puget Sound

2021 **Panelist**, *"I Am Puget Sound"* Student Orientation Program

2021 **Panelist**, CS/Math Graduate School Panel

2020 **Panelist**, Wednesday @ 4, *"Retooling Syllabi Mid-semester to Achieve Learning Objectives [during COVID-19]"*

2020 **Panelist**, CS/Math/Physics Graduate School Panel

2017 **Panelist**, Asian/Pacific Islander Faculty and Staff Panel, APIC

2015 **CS Representative**, Decision Puget Sound

Service to Profession

Conference Organization

BDCAT'22 **Poster Chair** and **Student Awards Chair**

SSDBM'21 **Session Chair**, *"Demo/Short Papers – DB/KB Applications"*

BDCAT'18 **Session Chair**, *"Big Data Infrastructures"*; *"Big Data Applications"*

FiCloud'18 **Program Track Chair**, *"Cloud Models"*

BDCAT'17 **Publicity Chair**

FiCloud'17 **Program Track Chair**, *"Energy Efficiency"*

Cloud'16 **Session Chairs**, *"Best Student Papers"*, *"CloudWare"*, and *"Cloud Data Storage"*

GFC'12 **General Chair**, GFC 2012 Workshop (Co-located with IEEE ICSG 2012)

CSC'12 **Session Chair**, *"Cloud Scheduling"*, IEEE CSC 2012

SSDBM'11 **Information Officer**

Technical Program Committees

IDEAS 2022 **PC Member**, 26th Intl. Database Engineering and Applications Symposium.

BDCAT 2021 **PC Member**, 8th Symposium on Big Data Computing, Applications & Technology

IDEAS 2021 **PC Member**, 25th Intl. Database Engineering and Applications Symposium.

BDCAT 2020 **PC Member**, 7th Symposium on Big Data Computing, Applications & Technology

IDEAS 2020 **PC Member**, 24th Intl. Database Engineering and Applications Symposium.

BDCAT 2019 **PC Member**, 6th Symposium on Big Data Computing, Applications & Technology

HiPC 2019 **PC Member**, 26th IEEE Intl. Conference on High Performance Computing.

IDEAS 2019 **PC Member**, 23rd Intl. Database Engineering and Applications Symposium.

BDCAT 2018 **PC Member**, 5th Symposium on Big Data Computing, Applications & Technology.

IDEAS 2018 **PC Member**, 22nd Intl. Database Engineering and Applications Symposium.

HiPC 2017 **PC Member**, 24th IEEE Intl. Conference on High Performance Computing.

IDEAS 2017 **PC Member**, 21st Intl. Database Engineering and Applications Symposium.

BDCAT 2016 **PC Member**, 3rd Symposium on Big Data Computing, Applications & Technology.

IDEAS 2016 **PC Member**, 20th Intl. Database Engineering and Applications Symposium.
ICCCN 2016 **PC Member**, 25th Intl. Conference on Computer Communications and Networks.
HiPC 2015 **PC Member**, 22th IEEE Intl. Conference on High Performance Computing.
IDEAS 2015 **PC Member**, 19th Intl. Database Engineering and Applications Symposium.
ICPP 2015 **PC Member**, 44th Intl. Conference on Parallel Processing.
ICCCN 2015 **PC Member**, 24th Intl. Conference on Computer Communications and Networks.
ScienceCloud'15 **PC Member**, 6th Workshop on Scientific Cloud Computing (with ACM HPDC'15).
SIGCSE 2015 **Reviewer**, 46th ACM Technical Symposium on Computer Science Education.
ITiCSE 2015 **Reviewer**, 20th ACM Conference on Innovation and Technology in CS Education
IDEAS 2014 **PC Member**, 18th Intl. Database Engineering and Applications Symposium.
ICCCN 2014 **PC Member**, 23rd Intl. Conference on Computer Communications and Networks.
ITiCSE 2014 **Reviewer**, 19th ACM Conference on Innovation and Technology in CS Education.
WMSC 2013 **PC Member**, 5th Workshop on Workflow Mgmt in Service & Cloud Computing.
ScienceCloud'13 **PC Member**, 4th Workshop on Scientific Cloud Computing (at ACM HPDC'13).
ISI 2013 **PC Member**, IEEE Intl. Conference on Intelligence and Security Informatics.
ITiCSE 2013 **Reviewer**, 18th Annual Conference on Innovation & Technology in CS Education.
SIGCSE 2013 **Reviewer**, 44th Technical Symposium on Computer Science Education.
CCSC 2012 **PC Member**, 14th Annual Consortium for Computing Sciences in Colleges NW.
CloudCom'12 **PC Member**, 4th Intl. Conference on Cloud Computing Technology & Science.
IDEAS 2012 **PC Member**, 16th Intl. Database Engineering and Applications Symposium.
ISI 2012 **PC Member**, IEEE Intl. Conference on Intelligence and Security Informatics.
IPDPS 2012 **PC Member**, 26th IEEE Intl. Parallel and Distributed Processing Symposium.
ScienceCloud'12 **PC Member**, 3rd Workshop on Scientific Cloud Computing (at ACM HPDC'12).
ITiCSE 2012 **Reviewer**, 17th Annual Conference on Innovation & Technology in CS Education.
SIGCSE 2012 **Reviewer**, 43rd ACM Technical Symposium on Computer Science Education.
CCSC-NW 2011 **PC Member**, 13th Annual Consortium for Computing Sciences in Colleges NW.
HPCC 2010 **PC Member**, 12th IEEE Conference on High-Performance Computing & Comm.

Journal Reviewer

COMP **Reviewer**, Springer Journal of Computing
FGCS **Reviewer**, Future Generation Computer Systems
IC **Reviewer**, IEEE Internet Computing
ITPRO **Reviewer**, IEEE IT Professional
JDPD **Reviewer**, Journal on Distributed and Parallel Databases
JSS **Reviewer**, Journal of Systems and Software
TPDS **Reviewer**, IEEE Transactions on Parallel and Distributed Systems
TCC **Reviewer**, IEEE Transactions on Cloud Computing

TKDE **Reviewer**, IEEE Transactions on Knowledge and Data Engineering

XRDS **Reviewer**, ACM Crossroads

Editorship

2012 - 2013 **Co-Editor**, IEEE Sustainable Computing Register

2009 - 2010 **Department Editor**, ACM Crossroads (XRDS)

2007 - 2009 **Associate Copy Editor**, ACM Crossroads (XRDS)

Community Service

2011 - 2017 **Faculty Mentor**, Google Summer of Code (GSoC)

2013 **Judge**, Portland Public Schools Science Expo

2012 **Faculty Lead**, MESA Engineering Day

2011 **Broader Engagement Mentor**, Supercomputing Conference (SC'11)

2011 **Judge**, Intel North West Science Expo

2011 **Lead Judge**, MESA Day

2011 **Faculty Lead**, MESA Engineering Day

2010 **Broader Engagement Mentor**, Supercomputing Conference (SC'10)

2010 **Faculty Lead**, MESA Engineering Day

2008 - 2009 **Teaching Orientation Facilitator**, The Ohio State University

Awards and Honors

2022 **President's Award for Excellence in Teaching**, University of Puget Sound

2020 **Elevation to Senior Member Grade**, IEEE

2019 **Best Paper Finalist**, IEEE/ACM BDCAT 2019

2018 **Best Paper Finalist**, IEEE/ACM BDCAT 2018

2018 **Best Poster Runner-Up** (with Jared Polonitza), CCSC-NW 2018

2017 **Kristine Bartanen Research Award**, University of Puget Sound

2015 **Best Poster Award** (with Alexia Ingerson), CCSC-NW 2015

2010 **Diversity Council Award**, WSU Vancouver

2010 **Outstanding Graduate Student Teaching (Quinlan Memorial) Award**, Computer Science and Engineering, The Ohio State University

2009 **Preparing Future Faculty (PFF) Fellow**, Ohio State/Denison

2009 **Upsilon Pi Epsilon**, Honor Society for the Computing & Information Disciplines

2004 **Best Student Paper Award**, ITE 2004

2004 **Best Student Paper Award**, IEEE ITCC 2004

Professional Affiliations

ACM	**Member**, Association for Computing Machinery
SIGCSE	**Member**, ACM Special Interest Group on Computer Science Education
SIGHPC	**Member**, ACM Special Interest Group on High-Performance Computing
SIGMOD	**Member**, ACM Special Interest Group on Management of Data
IEEE	**Senior Member**, Institute of Electrical and Electronics Engineers