David Chiu

Curriculum Vitae

Computer Science
University of Puget Sound
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Education

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

2003 – 2004 **MS (with thesis), Computer Science**
Kent State University, Kent, Ohio
Advisor: Paul S. Wang | Institute for Computational Mathematics

1998 – 2002 **BS, Computer Science**
Kent State University, Kent, Ohio

Appointments

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

2017 – **Associate Professor of Computer Science** (with tenure)
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

2003 – 2004 **Research and Teaching Assistant**
Department of Computer Science
Kent State University, Kent, Ohio

Publications

Note: My research advisees and I are underlined.

Conference Proceedings (Acceptance rates listed if known)

DASFAA 2020 B. Tran, B. Schaffner, J. Sawin, J. Myer, and D. Chiu. Increasing the Efficiency of GPU Bitmap Index Query Processing. 25th International Conference on Database Systems for Advanced Applications (DASFAA). JeJu, South Korea. 2020. **(487 submitted, 121 accepted, 25% acceptance rate). (1 of 15 selected for extended version)**

BDCAT 2019 M. Nelson, Z. Sorenson, J. Myer, 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 Finalists)**

CLOUD 2019 (Short) 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 Finalists)**

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)**

CCBD 2015 (Short) 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

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)**

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)**

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)**

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.

Journal Articles

DSE 2020 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. Springer. 2020.

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.

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.

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.

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.

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.

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

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

INVITED TALKS

(Not Including Conference Presentations)

2020 Graduate School Panel, *University of Puget Sound*

2014 Grid Friendly Computing (Job Talk), *Davidson College, University of Puget Sound, Seattle University, University of St. Thomas*

2013 Advances in Bitmap Indexing, *Intel Corp.*

2013 Grid Friendly Computing for the Pacific Northwest, Clark County High Tech and Community Council

2011 MATE-EC2: A Middleware for Processing Data with AWS, 4th International Workshop on Many-Task Computing on Grids and Supercomputers

2010 Accelerating Web Services with Elastic Cloud Caches (Job Talk), *St. Norbert College, University of Hartford, University of Texas–Tyler, Washington State University–Vancouver*

2010 Accelerating Web Services with Elastic Cloud Caches, *Kent State University*

Research Student Advising

Current Students

2021 Manya Mutschler-Aldine (BS, expected 05/2021)
"Implementation and Evaluation of the MIN and CLOCK Policies for Bitmap Caches"

2022 Colin Monaghan (BS, expected 05/2022)
"Meeting Quality-of-Service Constraints with Novel Replacement Policies for Bitmap-Index Processing"

Research Alumni and First Employment

2020 Sarah McClain (BS'20)
"Toward Semantic Caching of Bitmap Indices"

2020 Sarah Walling-Bell (BS'20), Center for Neurotechnology, Univ of Washington
"EEG Experiment Scripting Tool for Novice Programmers"

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

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

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

2018 Sam Burdick (BS'18), Amazon Web Services
"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"

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
"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
"Design and Implementation of an Energy-Aware Application 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
"SkySurvey Data Collection"

2014 Helena Lucia (BS'14), Intel
"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
"Reconciling Cost and Performance Objectives for Elastic Web Caches"

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

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

Other Students (As Mentor, Collaborator, or 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, Washington State University–Vancouver)

2014 Hoang Le (MS'14, Washington State University–Vancouver)

2013 Evan Dickinson (MS'13, Washington State University–Vancouver)

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

2011 Matt Henry (MS'11, Washington State University Vancouver)

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

2010 Gang Lu (MS'10, Washington State University–Vancouver)

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

Grants

10/20 Lind-Van Enkevort Grant (with America Chambers), University of Puget Sound ($6,000)

08/20 Burlington Northern Curriculum Development Grant: Data Science, University of Puget Sound ($6,540)

05/20 Agricola Faculty Mentor Award, University of Puget Sound ($1,000)

01/20 XSEDE Educational Grant, The Extreme Science and Engineering Discovery Environment (XSEDE) IU/TACC (Jetstream): 60,480 SUs (= $1,209.60)

07/19 XSEDE Educational Grant, The Extreme Science and Engineering Discovery Environment (XSEDE) 45,000 SUs (= $6,700.50)

10/18 University Enrichment Travel Grant, University of Puget Sound ($1,350)

11/17 Lind-Van Enkevort Grant, University of Puget Sound ($4,500)

06/17 University Enrichment Travel Grant, University of Puget Sound ($1,350)

05/17 Travel Grant, IEEE International Conference on Autonomic Computing

11/16 Lind-Van Enkevort Grant, University of Puget Sound (course release unit)

07/16 University Enrichment Travel Grant, University of Puget Sound ($1,570)

05/16 University Enrichment Travel Grant, University of Puget Sound ($1,020)

05/15 - 08/15 McCormick Faculty Research Award, University of Puget Sound ($4,000)

05/15 - 12/15 GooeySoft Analytics: "ICD9/ICD10 Conversions for Gastroenterology" ($7,954)

12/14 - 12/15 Amazon Education Grant: "CS 455 - Database Systems" ($2,500)

08/14 University Enrichment Travel Grant, University of Puget Sound ($1,350)

10/13 Schweitzer Engineering Labs (SEL) SyncrhoWAVE Software Donation ($5,000)

08/13 - 01/14 Oregon Built Environment and Sustainable Technologies Center: "BPA Special Study on Synchrophasors: Big Data" with R. Bass and E. Cotilla-Sanchez ($69,504)

08/13 NSF TPCC Curriculum Early Adopter Award, with X. Zhao and S. Wallace. ($2,500)

08/12 - 08/13 Amazon Education Grant: "CS 453 - Web Data Management" ($3,000)

04/12 - 04/13 Amazon Education Grant: "CS 460 - Operating Systems" ($1,500)

07/11 - 07/12 Amazon Education Grant: "CS 453 - Web Data Management" ($2,100)

06/11 - 06/13 WSU New Faculty Seed Research Grant: "Accelerating Large-Scale Workflow Processes over a Cloud Environment" ($17,057)

06/11 - 06/12 WSU Vancouver Mini Research Grant: "A Self-Tuning Bitmap Compression Framework for Fast Data Processing" ($2,770)

06/11 - 06/13 M.J. Murdock Charitable Trust Grant: "Interdisciplinary Renewable Energy Option Track" with W. Xue, S. Solivitz, and H. Gurocak ($250,490)

09/11 Broader Engagement and Mentoring Grant, 24th ACM/IEEE International Conference on High Performance Computing Networking, Storage and Analysis (SC'12). Award includes a stipend, registration, travel, accommodations, and meals. (∼$2,000)

12/10 - 12/11 Amazon Research Grant: "Cloud-Based Strategies for Accelerating Scientific Computing" ($7,500)

08/10 - 08/11 Amazon Education Grant: "CS 453 - Web Data Management" ($2,000)

10/10 WSU Diversity Council Award: "A Tangible Approach toward Generating Interest in Underrepresented Students in Computer Science." ($700)

09/10 Broader Engagement and Mentoring Grant: 23rd ACM/IEEE International Conference on High Performance Computing Networking, Storage and Analysis (SC'11). Award includes a stipend, registration, travel, accommodations, and meals. (∼$2,000)

Teaching Experience

2014 – **University of Puget Sound**

Introduction to Computer Science

Computer Science II

Capstone in Computer Science

Principles of Database Systems

Operating Systems

2010 – 2014 **Washington State University–Vancouver**

Introduction to Database Systems

Web Data Management

Operating Systems

Advanced Topics: High-Performance Computing

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 Profession

Technical Program Committee (Reviewer)

BDCAT'20 **PC Member**, 7th International Symposium on Big Data Computing, Applications and Technology (BDCAT), 2020.

IDEAS'20 **PC Member**, 24rd International Database Engineering and Applications Symposium (IDEAS), 2020.

BDCAT'19 **PC Member**, 6th International Symposium on Big Data Computing, Applications and Technology (BDCAT), 2019.

HiPC'19 **PC Member**, 26th IEEE International Conference on High Performance Computing (HiPC), 2019.

IDEAS'19 **PC Member**, 23rd International Database Engineering and Applications Symposium (IDEAS), 2019.

BDCAT'18 **PC Member**, 5th International Symposium on Big Data Computing, Applications and Technology (BDCAT), 2018.

IDEAS'18 **PC Member**, 22nd International Database Engineering and Applications Symposium (IDEAS), 2018.

HiPC'17 **PC Member**, 24th IEEE International Conference on High Performance Computing (HiPC), 2017.

IDEAS'17 **PC Member**, 21st International Database Engineering and Applications Symposium (IDEAS), 2017.

BDCAT'16 **PC Member**, 3rd International Symposium on Big Data Computing, Applications and Technology (BDCAT), 2016.

IDEAS'16 **PC Member**, 20th International Database Engineering and Applications Symposium (IDEAS), 2016.

ICCCN'16 **PC Member**, 25th International Conference on Computer Communications and Networks (ICCCN), 2016.

HiPC'15 **PC Member**, 22th IEEE International Conference on High Performance Computing (HiPC), 2015.

IDEAS'15 **PC Member**, 19th International Database Engineering and Applications Symposium (IDEAS), 2015.

ICPP'15 **PC Member**, 44th International Conference on Parallel Processing (ICPP), 2015.

ICCCN'15 **PC Member**, 24th International Conference on Computer Communications and Networks (ICCCN), 2015.

ScienceCloud'15 **PC Member**, 6th Workshop on Scientific Cloud Computing (ScienceCloud), 2015.

SIGCSE'15 **Reviewer**, 46th ACM Technical Symposium on Computer Science Education (SIGCSE), 2015.

ITiCSE'15 **Reviewer**, 20th ACM Conference on Innovation and Technology in CS Education (ITiCSE), 2015.

IDEAS'14 **PC Member**, 18th International Database Engineering and Applications Symposium (IDEAS), 2014.

ICCCN'14 **PC Member**, 23rd International Conference on Computer Communications and Networks (ICCCN), 2014.

ITiCSE'14 **Reviewer**, 19th ACM Conference on Innovation and Technology in CS Education (ITiCSE), 2014.

WMSC'13 **PC Member**, 5th Workshop on Workflow Management in Service and Cloud Computing (WMSC), 2013.

ScienceCloud'13 **PC Member**, 4th Workshop on Scientific Cloud Computing (ScienceCloud), 2015.

ISI'13 **PC Member**, IEEE International Conference on Intelligence and Security Informatics (ISI), 2013.

ITiCSE'13 **Reviewer**, 18th ACM Annual Conference on Innovation and Technology in CS Education (ITiCSE), 2013.

SIGCSE'13 **Reviewer**, 44th ACM Technical Symposium on Computer Science Education (SIGCSE), 2013.

CCSC'12 **PC Member**, 14th Annual Consortium for Computing Sciences in Colleges Northwest (CCSC-NW), 2012.

CloudCom'12 **PC Member**, 4th IEEE International Conference on Cloud Computing Technology and Science (CloudCom), 2012.

IDEAS'12 **PC Member**, 16th International Database Engineering and Applications Symposium (IDEAS), 2012.

ISI'12 **PC Member**, IEEE International Conference on Intelligence and Security Informatics (ISI), 2012.

IPDPS'12 **PC Member**, 26th IEEE International Parallel and Distributed Processing Symposium (IPDPS), 2012.

ScienceCloud'12 **PC Member**, 3rd Workshop on Scientific Cloud Computing (ScienceCloud), 2012.

ITiCSE'12 **Reviewer**, 17th ACM Annual Conference on Innovation and Technology in CS Education (ITiCSE), 2012.

SIGCSE'12 **Reviewer**, 43rd ACM Technical Symposium on Computer Science Education (SIGCSE), 2012.

CCSC'11 **PC Member**, 13th Annual Consortium for Computing Sciences in Colleges Northwest (CCSC-NW), 2011.

HPCC'10 **PC Member**, 12th International Conference on High-Performance Computing and Communication (HPCC), 2010.

Conference Organizer

BDCAT'18 **Session Chair**, *Big Data Infrastructures & Big Data Applications*, 5th International Symposium on Big Data Computing, Applications and Technology (BDCAT), 2018.

FiCloud'18 **Program Track Chair**, *Cloud Models*, 6th IEEE International Conference on Future Internet of Things and the Cloud (FiCloud), 2018.

BDCAT'17 **Publicity Chair**, 4th International Symposium on Big Data Computing, Applications and Technology (BDCAT), 2017.

FiCloud'17 **Program Track Chair**, *Energy Efficiency*, 5th IEEE International Conference on Future Internet of Things and the Cloud (FiCloud), 2017.

Cloud'16 **Session Chair**, *Best Student Papers*, *CloudWare*, and *Cloud Data Storage*, 9th IEEE International Conference on Cloud Computing (Cloud), 2016.

GFC'12 **General Chair**, 1st International Workshop on Power Grid Friendly Computing. Co-located with the 3rd IEEE International Green Computing Conference. 2012.

CSC'12 **Session Chair**, *Cloud Scheduling*, 3rd IEEE Conference on Cloud and Service Computing (CSC). 20112

SSDBM'11 **Information Officer**, 23rd International Conference on Scientific and Statistical Database Management (SSDBM), 2011.

Journal Reviewer

IEEE TPDS IEEE Transactions on Parallel and Distributed Systems

IEEE TCC IEEE Transactions on Cloud Computing

IEEE TKDE IEEE Transactions on Knowledge and Data Engineering

IEEE ITPRO IEEE IT Professional

IEEE IC IEEE Internet Computing

FGCS Future Generation Computer Systems

JDPD Journal on Distributed and Parallel Databases

ACM XRDS Crossroads, The ACM Magazine for Students

COMP Springer Journal of Computing

JSS Journal of Systems and Software

Editorship

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

2009 - 2010 **Department Editor**, ACM XRDS

2007 - 2009 **Associate Copy Editor**, ACM XRDS

University Service

2019 - **Chair of Computer Science**, University of Puget Sound

2020 - **SCALE Requirements Group (Continued work of the CTF)**, University of Puget Sound

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

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

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

2018 - 2020 **Curricular Taskforce (CTF)**, University of Puget Sound

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

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

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

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

2011 - 2014 **Faculty Advisor**, University Scholars, Washington State University–Vancouver

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

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

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

Outreach, Recruiting, and Mentoring

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

Awards and Honors

2020 **Elevation to Senior Member**, Institute of Electrical and Electronics Engineers (IEEE)

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

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

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

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

2009 **Outstanding Graduate Student Teaching Award** (1 awarded per year), Department of Computer Science and Engineering, Ohio State University

2009 **Preparing Future Faculty Fellow**, Ohio State University & Denison University

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

IEEE **Senior Member**, Institute of Electrical and Electronics Engineers

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