Christian R. Shelton

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Education

1998–2001 **PhD**, *Computer Science*, **Massachussetts Institute of Technology**

1996–1998 **SM**, *Computer Science*, **Massachussetts Institute of Technology**

1993–1996 **BS**, *Computer Science* (with distinction), **Stanford University**

Employment

2023– **Department Chair**, *University of California, Riverside*
Department of Computer Science & Engineering

2003– **Professor**, *University of California, Riverside*
Department of Computer Science & Engineering
Data Science Center Faculty
(Assistant Professor, 2003–2010, Associate Professor 2010–2016)

2012–2013 **Visiting Researcher**, *Children's Hospital Los Angeles*
One-year sabbatical, machine learning for ICU data

2003–2004 **Visiting Faculty**, *Intel*
Machine learning for microprocessor fabrication

2001–2003 **Postdoctoral Scholar**, *Stanford University*

Awards

2009 DARPA Computer Science Study Group

2006 AFOSR Young Investigator Award

1996– Member, ΦΒΚ

1996– Member, ΤΒΠ

Highlights

Research **Machine Learning** h-index: 35
dynamic systems, temporal and spatial data, point processes
applications: medicine, vision, sociology, astronomy, material science, entomology

Funding $4.2M (my portion)
NSF, DoE, DoD, DARPA, AFOSR, Industry

Teaching 14 PhD students graduated, 13 MS students graduated
40+ courses offerings taught, graduate & undergraduate

University Chair of Senate budget committee (2 yrs), Department faculty search chair (4 yrs)
Chair University strategic planning subcommittee, Helped create four new degree programs, Outreach chair

Grant Funding

Total funding (my portion): $4.2M

2021–2025 **DECODE: Data-driven Exascale Control of Optically Driven Excitations in Chem. and Mat. Sys.**
$2,000,000 (UCR's component) DoE, co-PI

2018–2021 **GAANN: Fellowships in Computer Science and Engineering**
$895,500 Dept. of Education, co-PI

2018–2020 **A Computational and Robotics Infrastructure for Learning-based Autonomous Systems**
$428,331 DoD, co-PI

2017–2019 **Probabilistic Operations Warranted for Energy Reliability Evaluation and Diagnostics**
$170,000 DoD SBIR phase II sub-award, sole PI

2016–2022 **NRT-DESE: NRT in Integrated Computational Entomology (NICE)**
$2,721,142 NSF, co-PI

2015–2019 **Machine Learning for Agricultural and Medical Entomology**
$1,100,000 NSF, co-PI

2015–2018 **REU Site: RE-ICE: Research Experiences in Integrated Computational Entomology**
$389,550 NSF, co-PI

2015–2017 **DynamicData: A Hierarchical Approach to Dynamic Big Data Analysis in Power Infra. Security**
$185,000 NSF, co-PI

2013–2017 **Inference for Continuous-Time Probabilistic Programming**
$706,513 DARPA, sole PI

2011-2014 **Estimating Models of Patient Response to Ventilation**
$156,146 sub-award from CHLA, sole PI

2010–2011 **Modular CS1 from the Inside Out: Computational Thinking for STEM Students**
$25,000 (UCR's component) NSF CPATH, senior personnel

2009–2010 **Reasoning in Dynamic Real Time Systems**
$100,000 DARPA, sole PI

2006–2009 **Continuous Time Structured Stochastic Processes**
$346,729 (Young Investigator Program) AFOSR, sole PI

2006–2007 **Continuous Time Models for Malicious Network Traffic Detection**
$86,500 Intel Research + UC MICRO, sole PI

2004–2006 **Adaptive Decision Making for Silicon Manufacturing**
$159,646 Intel Research + UC MICRO, sole PI

Professional Service

2020– **Action Editor**
Journal Machine Learning Research (JMLR)

2015 **Conference Co-Chair**
MUCMD: Meaningful Use of Complex Medical Data

2009–2012 **Editorial Board**
Journal of Artificial Intelligence Research (JAIR)

2003–2008 **Managing Editor**
Journal Machine Learning Research (JMLR)

Conference Area Chair

AAAI **Conference on Artificial Intelligence**, *2020, '21, '22, '23*

MLHC **Machine Learning for Healthcare (formerly MUCMD)**, *2017, '18, '19, '20, '21*

Conference Senior PC Member

AAAI **Conference on Artificial Intelligence**, *2016, '17, '18*

IJCAI **International Joint Conferences on Artificial Intelligence**, *2018*

UAI **Uncertainty in Artificial Intelligence**, *2011, '12, '13*

Conference PC Member

UAI **Uncertainty in Artificial Intelligence**, *2003, '05, '06, '07, '18, '19, '20, '21*$^{(top\ 10\%)}$, *'22*$^{(top\ 12.5\%)}$

AISTATS **International Conference on AI and Statistics**, *2017, '19, '21, '22, '23*$^{(top\ 10\%)}$, *'24*

ICML **International Conference on Machine Learning**, *2006, '07, '08, '10, '12, '13, '14, '19*

IJCAI **International Joint Conferences on Artificial Intelligence**, *2007, '09, '15*

AAAI **Conference on Artificial Intelligence**, *2008, '24*

KDD **International Conference on Knowledge Discovery and Data Mining**, *2006, '07*

Other Reviewing

NeurIPS **Neural Information Processing Systems**, *2002, '04, '06, '08, '13, '15, '16, '17, '19*

numerous other conferences and journals, irregularly

University Service

UC System

2016–2018 **Senate Committee on Planning & Budget** Riverside representative

Campus

2020–2021 **Public Health Committee (in response to COVID-19)**

2019–2021 **Strategic Planning Committee on Sustainable Infrastructure, Operations, and Finances** chair

2019 **Credit Hour Weights Committee**

2015–2018 **Senate Committee on Planning & Budget** chair (2016–2018), vice-chair (2015–2016)

2016–2018 **Linguistics Major Steering Committee**

2011–2012, 2013–2015 **Non-Senate Faculty Excellent Review Committee** chair (2013–2015)

2011–2012 **Academic Senate Writing Across the Curriculum Advisory Council**

2010–2012 **Academic Senate Preparatory Education Committee**

2009–2012 **UCR Undergraduate Research Journal Advisory Board** chair (2011–2012)

College

2020–2022 **Data Science MS Creation Committee**

2019–2021 **Robotics BS Creation Committee** co-chair

2019–2021 **Robotics MS Creation Committee**

2016–2019 **Data Science BS Creation Committee**

2015–2018 **IT Committee**

2005– **TBΠ faculty advisor** chief advisor (2007–2012, 2016–2017)

2012 **Undergraduate Admissions Review Committee** chair

2008–2011 **Executive Committee**

2011 **Breadth Requirement Review Comittee** chair

2005–2007 **ABET Committee**

Department

2008–2010, 2018–2022 **Faculty Search Committee** chair (2018–2022)

2016–2019 **School and Community Outreach** chair

2009–2012, 2015–2016 **Graduate Admissions Committee**

2013–2014 **Colloquium Committee** chair

2011–2018 **Honor Society Advisor**

2009 **ACM Programming Competition Coach**

Student Mentorship

2003– **UC Riverside** 14 PhD, 13 MS graduated (+ 13 BS) *[last known location] *co-advisor*

Chengkuan Hong (PhD 2022) [Post-doc, Tsinghua University]	Amir Feghahati (PhD 2020) [VideoAmp]	Kazi Islam (PhD 2020) [Genesis Research]
Mike Izbicki (PhD 2017) [Asst Prof, Claremont McKenna]	Busra Celikkaya (PhD 2016) [Amazon]	Zhen Qin (PhD 2015) [Google]
Juan Casse (PhD 2014) [Beyond Limits]	Kevin Horan* (PhD 2011) [Ergatas]	Antony Lam* (PhD 2010) [Mercari]
Jing Xu (PhD 2010) [Mathworks]	Teddy Yap, Jr. (PhD 2009) [Professor, Algonquin College]	Yu Fan (PhD 2009) [Google]
Kin Fai Kan (PhD 2008) [Salesforce]	Guobiao Mei (PhD 2008) [Google]	

Malhar Thombare (MS 2023) [Beyond Limits]	Leah Fauber (MS 2021)	Colin Lee* (MS 2021) [Johns Hopkins APL]
Mehran Ghamaty (MS 2018) [ORSNN]	Sanjana Sandeep (MS 2018) [Google]	Anthony Williams (MS 2017) [PhD student at Oregon State]
Gaurav Jhaveri (MS 2017) [Revance Therapeutics]	Chandini Shetty (MS 2017) [VMWare]	Matthew Zarachoff (MS 2015) [mindtrace.ai]
Louisa Kim (MS 2015) [Capital Group]	Suraj Narayana (MS 2014) [Verkada]	Jeffrey Price (MS 2011) [Intuit Mailchimp]
Wesley Huie (MS 2005) [Twitch]		

Classroom Instruction

2003– **UC Riverside**

Graduate	Undergraduate
CS260 Deep Learning (seminar) [2x]	CS181 Principles of Programming Languages [6x]
CS260 Stochastic Processes (seminar) [3x]	CS179M Senior Project in AI [4x]
CS229 Machine Learning [7x]	CS171 Intro. to Machine Learning and Data Mining [9x]
CS227 Probabilistic Models for AI [9x]	CS170 Intro. to AI [4x]
CS224 Fundamentals of Machine Learning [2x]	CS14 Intro. to Data Structures and Algorithms [1x]
CS205 Artificial Intelligence [5x]	

Publications (directly supervised students underlined)

Journals

MLST Marjuka F. Lazin, **Christian R. Shelton**, Simon N. Sandhofer, and Bryan M. Wong. High-dimensional multi-fidelity Bayesian optimization for quantum control. *Machine Learning: Science and Technology*, 4(4), 2023.

MNRAS Ming-Feng Ho, Simeon Bird, Martin A. Fernandez, and **Christian R. Shelton**. MF-Box: Multi-fidelity and multi-scale emulation for the matter power spectrum. *Monthly Notices of the Royal Astronomical Society*, 526(2):2903–2919, December 2023.

TPDS Yujia Zhai, Elisabeth Giem, Kai Zhao, Jinyang Liu, Jiajun Huang, Bryan M. Wong, **Christian R. Shelton**, and Zizhong Chen. FT-BLAS: A fault tolerant high performance BLAS implementation on x86 CPUs. *IEEE Transactions on Parallel and Distributed Systems*, 2023.

MNRAS Ming-Feng Ho, Simeon Bird, and **Christian R. Shelton**. A multi-fidelity emulator for the matter power spectrum using Gaussian processes. *Monthly Notices of the Royal Astronomical Society*, 509(2):2551–2565, January 2022.

CPC Akber Raza, Chengkuan Hong, Xian Wang, Anshuman Kumar, **Christian R. Shelton**, and Bryan M. Wong. NIC-CAGE: An open-source software package for predicting optimal control fields in photo-excited chemical systems. *Computer Physics Communications*, 258:107541, January 2021.

MNRAS Leah Fauber, Ming-Feng Ho, Simeon Bird, **Christian R. Shelton**, Roman Garnett, and Ishita Korde. Automated measurement of quasar redshift with a Gaussian process. *Monthly Notices of the Royal Astronomical Society*, 498(4):5227–5239, 11 2020.

PCCP Xian Wang, Anshuman Kumar, **Christian R. Shelton**, and Bryan M. Wong. Harnessing deep neural networks to solve inverse problems in quantum dynamics: Machine-learned predictions of time-dependent optimal control fields. *Physical Chemistry Chemical Physics*, 22(40):22889–22899, 09 2020. **featured cover article**.

Front. Psychol. Sanjana Sandeep, **Christian R. Shelton**, Anja Pahor, Susanne M. Jaeggi, and Aaron R. Seitz. Application of machine learning models for tracking participant skills in cognitive training. *Frontiers in Psychology*, 11:1532, 7 2020.

PLOS ONE Benjamin D. Yetton, Elizabeth A. McDevitt, Nicola Cellini, **Christian Shelton**, and Sara C. Mednick. Quantifying sleep architecture dynamics and individual differences using big data and Bayesian networks. *PLOS One*, 13(4), 2018.

TIP Zhen Qin and **Christian R. Shelton**. Event detection in continuous video: An inference in point process approach. *IEEE Transactions on Image Processing*, 26(12):5680–5691, December 2017.

PAMI Zhen Qin and **Christian R. Shelton**. Social grouping for multi-target tracking and head pose estimation in video. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 38(10):2082–2095, October 2016.

PCCM Philip Toltzis, Gerardo Soto-Campos, **Christian R. Shelton**, Evelyn M. Kuhn, Ryan Hahn, Robert K. Kanter, and Randall C. Wetzel. Evidence-based pediatric outcome predictors to guide the allocation of critical care resources in a mass casualty event. *Pediatric Critical Care Medicine*, 16(7):e207–e216, September 2015.

JAIR **Christian R. Shelton** and Gianfranco Ciardo. Tutorial on continuous-time Markov processes. *Journal of Artificial Intelligence Research*, 51:725–778, December 2014.

Respir. Care Robinder G. Khemani, E. Busra Celikkaya, **Christian R. Shelton**, Dave Kale, Patrick A. Ross, Randall C. Wetzel, and Christopher J. L. Newth. Algorithms to estimate PaCO2 and pH using non-invasive parameters for children with hypoxemic respiratory failure. *Respiratory Care*, 59(8):1248–1257, August 2014.

Soc. Netw. Juan I. Casse, **Christian R. Shelton**, and Robert A. Hanneman. A new criterion function for exploratory blockmodeling for structural and regular equivalence. *Social Networks*, 35(1):31–50, 2013.

JSS Pamela Bhattacharya, Iulian Neamtiu, and **Christian R. Shelton**. Automated, highly-accurate, bug assignment using machine learning and tossing graphs. *Journal of Systems and Software*, 85(10):2275–2292, October 2012.

JEE Alec C. Gerry, G. E. Higginbotham, N. Periera, A. Lam, and **C. R. Shelton**. Evaluation of surveillance methods for monitoring house fly abundance and activity on large commercial dairy operations. *Journal of Economic Entomology*, 104(3):1087–1092, June 2011.

SNAM Robert A. Hanneman and **Christian R. Shelton**. Applying modality and equivalence concepts to pattern-finding in social process-produced data. *Social Network Analysis and Mining*, 1:59–72, 2011.

JAIR Jing Xu and **Christian R. Shelton**. Intrusion detection using continuous time Bayesian networks. *Journal of Artificial Intelligence Research*, 39:745–774, 2010.

JMLR Yu Fan, Jing Xu, and **Christian R. Shelton**. Importance sampling for continuous time Bayesian networks. *Journal of Machine Learning Research*, 11(Aug):2115–2140, 2010.

BMC Bioinfo. Kevin Horan, **Christian R. Shelton**, and Thomas Girke. Predicting conserved protein motifs with sub-HMMs. *BMC Bioinformatics*, 11(205):1471–2105, 2010.

JMLR **Christian R. Shelton**, Yu Fan, William Lam, Joon Lee, and Jing Xu. Continuous time Bayesian network reasoning and learning engine. *Journal of Machine Learning Research*, 11(Mar):1137–1140, 2010.

IJDLS Xiaoyue Wang, Lexiang Ye, Eamonn Keogh, and **Christian Shelton**. Annotating historical archives of images. *International Journal of Digital Library Systems*, 1(2):59–80, 2010.

SIGGRAPH Adriano Macchietto, Victor Zordan, and **Christian R. Shelton**. Momentum control for balance. *ACM Transactions on Graphics / SIGGRAPH*, 28(3), 2009.

Plant Physiol. Kevin Horan, Charles Jang, Julie Bailey-Serres, Ron Mittler, **Christian Shelton**, Jeff F Harper, Jian-Kang Zhu, John JC Cushman, Martin Gollery, and Thomas Girke. Annotating genes of known and unknown function by large-scale co-expression analysis. *Plant Physiology*, 147(1):41–57, May 2008.

JAIR Ben Blum, **Christian R. Shelton**, and Daphne Koller. A continuation method for Nash equilibria in structured games. *Journal of Artificial Intelligence Research*, 25:457–502, 2006.

AAMAS Charles Lee Isbell, Jr., Michael Kearns, Satinder Singh, **Christian R. Shelton**, Peter Stone, and Dave Kormann. Cobot in LambdaMOO: An adaptive social statistics agent. *Autonomous Agents and Multi-Agent Systems*, 13(3):327–354, 2006.

IJCV **Christian R. Shelton**. Morphable surface models. *International Journal of Computer Vision*, 38(1):75–91, 2000.

Spatial Vision Tomaso Poggio and **Christian R. Shelton**. Learning in brains and machines. *Spatial Vision*, 13(2,3):287–296, November 2000.

Comput. Geom. Dan Halperin and **Christian R. Shelton**. A perturbation scheme for spherical arrangements with application to molecular modeling. *Computational Geometry: Theory and Applications*, 10(4):273–288, 1998.

Comput. Geom. P. W. Finn, L. E. Kavraki, J.-C. Latombe, R. Motwani, **C. Shelton**, S. Venkatasubramanian, and A. Yao. RAPID: Randomized pharmacophore identification for drug design. *Computational Geometry: Theory and Applications*, 10(4), 1998.

Conferences

AISTATS Chengkuan Hong and **Christian R. Shelton**. Variational inference for Neyman-Scott processes. In *International Conference on Artificial Intelligence and Statistics*, 2023.

AISTATS Chengkuan Hong and **Christian R. Shelton**. Deep Neyman-Scott processes. In *International Conference on Artificial Intelligence and Statistics*, 2022.

ACG Dave Gomboc and **Christian R. Shelton**. Chess endgame compression via logic minimization. In *Advances in Computer Games*, 2021.

RTSS Seyedmehdi Hosseinimotlagh, Daniel Enright, **Christian R. Shelton**, and Hyoseung Kim. Data-driven structured thermal modeling for COTS multi-core processors. In *IEEE Real-Time Systems Symposium*, 2021.

SIGCSE Mariam Salloum, Daniel Jeske, Wenxiu Ma, Vagelis Papalexakis, **Christian Shelton**, Vassilis Tsotras, and Shuheng Zhou. Developing an interdiciplinary data science program. In *SIGCSE Technical Symposium on Computer Science Education*, 2021.

ECAI Amir Feghahati, **Christian R. Shelton**, Michael J. Pazzani, and Kevin Tang. CDeepEx: Contrastive deep explanations. In *European Conference on Artificial Intelligence*, 2020.

SDM Sara Alaee, Alireza Abdoli, **Christian Shelton**, Amy C. Murillo, Alec C. Gerry, and Eamonn Keogh. Features or shape? tackling the false dichotomy of time series classification. In *SIAM International Conference on Data Mining*, 2020.

ECML/PKDD Mike Izbicki and **Christian R. Shelton**. Distributed learning of non-convex linear models with one round of communication. In *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases*, 2019.

ICDAR Amirali Darvishzadeh, Thomas F. Stahovich, Amir Feghahati, Negin Entezari, Shaghayegh Gharghabi, Reed Kanemaru, and **Christian Shelton**. CNN-BLSTM-CRF network for semantic labeling of students' online handwritten assignments. In *15th International Conference on Document Analysis and Recognition*, 2019.

MLHC Jacob Fauber and **Christian R. Shelton**. Modeling "presentness" of electronic health record data to improve patient state estimation. In *Proceedings of Machine Learning for Healthcare*, 2018.

AAAI **Christian R. Shelton**, Zhen Qin, and Chandini Shetty. Hawkes process inference with missing data. In *Proceedings of the Thirty-Second AAAI Conference on Artificial Intelligence*, 2018.

MLHC Kazi T. Islam, **Christian R. Shelton**, Juan I. Casse, and Randall Wetzel. Marked point process for severity of illness assessment. In *Proceedings of Machine Learning for Healthcare*, 2017.

ACC Mike Izbicki, Sajjad Amini, **Christian R. Shelton**, and Hamed Mohsenian-Rad. Identification of destabilizing attacks in power systems. In *Proceedings of the 2017 American Control Conference*, pages 3424–3429, 2017.

UAI Zhen Qin and **Christian R. Shelton**. Auxiliary Gibbs sampling for inference in piecewise-constant conditional intensity models. In *Proceedings of the Thirty-First Conference on Uncertainty in Artificial Intelligence*, 2015.

ICML Mike Izbicki and **Christian R. Shelton**. Faster cover trees. In *Proceedings of the Thirty-Second International Conference on Machine Learning*, 2015.

ICML E. Busra Celikkaya and **Christian R. Shelton**. Deterministic anytime inference for stochastic continuous-time Markov processes. In *Proceedings of the Thirty-First International Conference on Machine Learning*, 2014.

ICME Zhen Qin, **Christian R. Shelton**, and Lunshao Chai. Social grouping for target handover in multi-view video. In *IEEE International Conference on Multimedia and Expo*, 2013. **best paper candidate**.

ICIP Lunshao Chai, Zhen Qin, Honggang Zhang, Jun Guo, and **Christian R. Shelton**. Re-ranking using compression-based distance measure for content-based commercial product image retrieval. In *IEEE International Conference on Image Processing*, 2012.

CVPR Zhen Qin and **Christian R. Shelton**. Improving multi-target tracking via social grouping. In *IEEE Conference on Computer Vision and Pattern Recognition*, 2012.

UAI E. Busra Celikkaya, **Christian R. Shelton**, and William Lam. Factored filtering of continuous-time systems. In *Proceedings of the Twenty-Seventh International Conference on Uncertainty in Artificial Intelligence*, 2011.

ICRA Teddy N. Yap, Jr., Mingyang Li, Anastasios I. Mourikis, and **Christian R. Shelton**. A particle filter for monocular vision-aided odometry. In *Proceedings of the IEEE International Conference on Robotics and Automation*, 2011.

ACCV Antony Lam, Amit K. Roy-Chowdhury, and **Christian R. Shelton**. Interactive event search through transfer learning. In *Tenth Asian Conference on Computer Vision*, 2010.

UAI Yu Fan and **Christian R. Shelton**. Learning continuous-time social network dynamics. In *Proceedings of the Twenty-Fifth International Conference on Uncertainty in Artificial Intelligence*, 2009.

ICRA Teddy N. Yap, Jr. and **Christian R. Shelton**. SLAM in large indoor environments with low-cost, noisy, and sparse sonars. In *Proceedings of the IEEE International Conference on Robotics and Automation*, pages 1395–1401, 2009.

ICPR Guobiao Mei and **Christian R. Shelton**. Unsupervised image embedding using nonparametric statistics. In *International Conference on Pattern Recognition*, 2008.

FG Antony Lam and **Christian R. Shelton**. Face recognition and alignment using support vector machines. In *Automatic Face and Gesture Recognition*, 2008.

ECML/PKDD Kin Fai Kan and **Christian R. Shelton**. Catenary support vector machines. In *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases*, volume 5211 of *LNAI*, pages 597–610, 2008.

ECML/PKDD Jing Xu and **Christian R. Shelton**. Continuous time Bayesian networks for host level network intrusion detection. In *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases*, volume 5212 of *LNAI*, pages 613–627, 2008.

JCDL Xiaoyue Wang, Lexiang Ye, Eamonn Keogh, and **Christian Shelton**. Annotating historical archives of images. In *Joint Conference on Digital Libraries*, pages 341–350, 2008.

ICRA Teddy N. Yap, Jr. and **Christian R. Shelton**. Simultaneous learning of motion and sensor model parameters for mobile robots. In *Proceedings of the IEEE International Conference on Robotics and Automation*, pages 2091–2097, 2008.

AIM Yu Fan and **Christian R. Shelton**. Sampling for approximate inference in continuous time Bayesian networks. In *Tenth International Symposium on Artificial Intelligence and Mathematics*, 2008.

AIM Kin Fai Kan and **Christian R. Shelton**. Solving structured continuous-time Markov decision processes. In *Tenth International Symposium on Artificial Intelligence and Mathematics*, 2008.

AIED Titus Winters, **Christian R. Shelton**, and Tom Payne. Investigating generative factors of score matrices. In *Thirteenth International Conference on Artificial Intelligence in Education*, pages 479–486, 2007.

NIPS **Christian R. Shelton**, Wesley Huie, and Kin Fai Kan. Chained boosting. In *Advances in Neural Information Processing Systems 19*, pages 1281–1288, 2007.

UAI Guobiao Mei and **Christian R. Shelton**. Visualization of collaborative data. In *Proceedings of the Twenty-Second International Conference on Uncertainty in Artificial Intelligence*, pages 341–348, 2006.

ICML Xiaopeng Xi, Eamonn Keogh, **Christian Shelton**, Li Wei, and Chotirat Ann Ratanamahatana. Fast time series classification using numerosity reduction. In *Proceedings of the Twenty-Third International Conference on Machine Learning*, pages 1033–1040, 2006.

UAI Uri Nodelman, **Christian R. Shelton**, and Daphne Koller. Expectation maximization and complex duration distributions for continuous time Bayesian networks. In *Proceedings of the Twenty-First International Conference on Uncertainty in Artificial Intelligence*, pages 421–430, 2005.

UAI Uri Nodelman, Daphne Koller, and **Christian R. Shelton**. Expectation propagation for continuous time Bayesian networks. In *Proceedings of the Twenty-First International Conference on Uncertainty in Artificial Intelligence*, pages 431–440, 2005.

UAI Uri Nodelman, **Christian R. Shelton**, and Daphne Koller. Learning continuous time Bayesian networks. In *Proceedings of the Nineteenth International Conference on Uncertainty in Artificial Intelligence*, pages 451–458, 2003. **best student paper award** (student: Uri Nodelman).

IJCAI Ben Blum, **Christian R. Shelton**, and Daphne Koller. A continuation method for Nash equilibria in structured games. In *Proceedings of the Eighteenth International Joint Conference on Artificial Intelligence*, pages 757–764, 2003.

UAI Uri Nodelman, **Christian R. Shelton**, and Daphne Koller. Continuous time Bayesian networks. In *Proceedings of the Eighteenth International Conference on Uncertainty in Artificial Intelligence*, pages 378–387, 2002.

UAI **Christian R. Shelton**. Reinforcement learning with partially known world dynamics. In *Proceedings of the Eighteenth International Conference on Uncertainty in Artificial Intelligence*, pages 461–468, 2002.

ICML Leonid Peshkin and **Christian R. Shelton**. Learning from scarce experience. In *Proceedings of the Nineteenth International Conference on Machine Learning*, pages 498–505, 2002.

UAI **Christian R. Shelton**. Policy improvement for POMDPs using normalized importance sampling. In *Proceedings of the Seventeenth International Conference on Uncertainty in Artificial Intelligence*, pages 496–503, 2001.

Agents Charles L. Isbell, **Christian R. Shelton**, Michael Kearns, Satinder Singh, and Peter Stone. A social reinforcement learning agent. In *Fifth International Conference on Autonomous Agents*, pages 377–384, 2001. **best paper award**.

NIPS Charles L. Isbell, **Christian R. Shelton**, Michael Kearns, Satinder Singh, and Peter Stone. Cobot: A social reinforcement learning agent. In *Advances in Neural Information Processing Systems 2001*, volume 2, pages 1393–1400, 2002.

NIPS **Christian R. Shelton**. Balancing multiple sources of reward in reinforcement learning. In *Advances in Neural Information Processing Systems 2000*, pages 1082–1088, 2001.

SoCG Dan Halperin and **Christian R. Shelton**. A perturbation scheme for spherical arrangements with application to molecular modeling. In *Proceedings of the Thirteenth Symposium on Computational Geometry*, pages 183–192, 1997.

SoCG P. W. Finn, L. E. Kavraki, J.-C. Latombe, R. Motwani, **C. Shelton**, S. Venkatasubramanian, and A. Yao. RAPID: Randomized pharmacophore identification for drug design. In *Proceedings of the Thirteenth Symposium on Computational Geometry*, pages 324–333, 1997.

Workshops and Less Reviewed

IWLS Dave Gomboc and **Christian R. Shelton**. Lossless compression via two-level logic minimization: a case study using Chess endgame data. In *29th International Workshop on Logic and Synthesis*, 2020.

Kazi Islam and **Christian Shelton**. Neural stochastic differential equations with Bayesian jumps for marked temporal point process. In *NeurIPS workshop on Learning wtih Temporal Point Processes*, 2019.

DMLE Mike Izbicki and **Christian R. Shelton**. Distributed learning of neural networks with one round of communication. In *2nd International Workshop on Decentralized Machine Learning at the Edge (DMLE'19)*, 2019.

Michael Pazzani, Amir Feghahati, **Christian Shelton**, and Aaron Seitz. Explaining contrasting categories. In *IUI Workshop on Explainable Smart Systems*, 2018.

Titus Winters, **Christian Shelton**, Thomas Payne, and Guobiao Mei. Topic extraction from item-level grades. In *AAAI-05 Workshop: Educational Data Mining*, pages 1–8, July 2005.

Christian R. Shelton. Importance sampling estimate for policies with memory. In *ICML Workshop on Heirarchy and Memory*, 2001.

SCE Nicholas T. Chan and **Christian R. Shelton**. An electronic market-maker. In *Seventh International Conference of the Society for Computational Economics*, 2001.

AI Mag. Tomaso Poggio and **Christian R. Shelton**. Machine learning, machine vision, and the brain. *AI Magazine*, 20(3):37–55, 1999.

WACG Paul W. Finn, Dan Halperin, Lydia E. Kavraki, Jean-Claude Latombe, Rajeev Motwani, **Christian Shelton**, and Suresh Venkatasubramanian. Geometric manipulation of flexible ligands. In M. C. Lin and D. Manocha, editors, *Applied Computational Geometry: Towards Geometric Engineering*, pages 67–78. Springer, 1996. papers from the ACM Workshop on Applied Computational Geometry 1996.

Patents

Tomaso Poggio and **Christian Shelton**. Correspondence between n-dimensional surface: vector fields that are defined by surfaces and that generate surfaces which preserve characteristics of the defining surfaces. US Patent 6,525,744, 2003. Filed March 11, 1999, Granted Feb 25, 2003.

Invited Talks

Apr 2023	Multi-fidelty Concentric MCMC	*Computer Science Colloquium, Purdue*
Apr 2023	Multi-fidelty Concentric MCMC	*Computer Science Colloquium, Iowa State University*
Sep 2021	Machine Learning and Pediatric Intensive Care Units: Failure and Success	*California AI Summit, Girls Computing League*
Nov 2016	Marked Point Processes for Clustering Intensive Care Data	*Amazon, Seattle*
Aug 2016	Marked Point Processes in Intensive Care Data and Video Activity Recognition	*Electrical Engineering Department, UCLA*
Jan 2016	Two Medical Informatics Applications of Machine Learning	*Electrical Engineering Department Colloquium, UCLA*
Apr 2015	Deterministic Anytime Inference for Continuous-Time Markov Processes	*Computer Science Colloquium, Iowa State University*

Feb 2014	Machine Learning and Critical Care Pediatrics	*Machine Learning Seminar, UCSD*
Sep 2013	Continuous-Time Models: Why & How	*Seminar, eHarmony*
Jun 2013	Continuous-Time Models: Why & How	*AI Seminar, ISI/USC*
Jan 2013	Machine Learning for Critical Care Medicine	*AI/ML Weekly Seminar, UCI*
Aug 2012	Tutorial on Continuous-Time Markov Processes	*International Conference on Uncertainty in Artificial Intelligence, Catalina Island*
Nov 2011	Inference and Learning for Continuous Time Stochastic Systems	*Asilomar Conference on Signals, Systems and Computers*
Sep 2011	Anyway you slice it, time is continuous	*Southern California Machine Learning Workshop, UCI*
Sep 2011	Inferring Time-Varying Hidden Social Links	*ID Analytics, San Diego*
Aug 2011	The Perils of Time Slicing, and How to Avoid Them	*Los Angeles Machine Learning Meetup*
Aug 2011	Applications of Dynamic-System Modeling	*Virtual Pediatric Intensive Care Unit, Children's Hospital Los Angeles*
May 2010	Modeling Stochastic Dynamic Systems in Continuous Time	*AI/ML Weekly Seminar, UCI*
Mar 2010	Uncertainty in Artificial Intelligence: Visual Odometry	*Invited Lunch Speaker at Measurement Science Conference, Pasadena*
Feb 2009	Structured Models of Continuous-Time Dynamic Processes	*Information Theory and Applications Workshop, UCSD*
Sep 2008	Reasoning about Social Network Dynamics	*Workshop on Socio-Cultural Modeling, Santa Barbara*
Apr 2007	Continuous Time Bayesian Networks and Network Traffic Monitoring	*Machine Learning Seminar, UCSD*
Mar 2006	Continuous Time Bayesian Networks and Network Traffic Monitoring	*Intel Research, Santa Clara, California*
Jul 2004	Computing Equilibria in Compact Structured Game Representations	*HRL Laboratories, Malibu, California*
Jan 2004	Structured Game Representations and Nash Calculation	*8th International Symposium on Artificial Intelligence and Mathematics, Fort Lauderdale, Florida*
Sep 2003	Continuous Time Bayesian Networks	*Brains and Machines Seminar Series, CBCL, MIT*
Sep 2003	Compact Structured Game Representations	*Complexity in Economic Theory, Cowles Foundation Workshop, Yale*
Aug 2003	Compact Structured Game Representations	*14th International Conference on Game Theory, Stony Brook, New York*