

# Roman Garnett

Washington University in St. Louis  
Computer Science and Engineering  
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## Education

### University of Oxford

2010 DPhil in Engineering Science  
*Thesis:* Learning from Data Streams with Concept Drift  
*Advisor:* Stephen J Roberts

### Washington University in St. Louis

2004 MSc in Computer Science  
2004 AB in Mathematics, *summa cum laude*

## Professional Appointments

### Washington University in St. Louis, St. Louis, MO, USA

2015- Assistant Professor  
Department of Computer Science and Engineering

### University of Bonn, Bonn, Germany

2012-14 Postdoctoral Researcher  
Knowledge Discovery and Machine Learning Group

### Carnegie Mellon University, Pittsburgh, PA, USA

2010-12 Postdoctoral Researcher  
Auton Lab, Robotics Institute

### National Security Agency, Ft. Meade, MD, USA

2004-10 Applied Research Mathematician

## Awards & Distinctions

2014 Outstanding reviewer award, Conference on Neural Information Processing Systems (**NIPS 2014**).

2006-09 Clarendon Scholarship, full-tuition scholarship with stipend awarded by the University of Oxford to those “with the best proven and future potential.”

2004 Ross R Middlemiss Prize in Mathematics, awarded by the Washington University in St. Louis Mathematics Department to “a graduating mathematics major with an outstanding record.”

2004 Computer Science Department Chairman’s Award, Washington University in St. Louis.

Erdős number 2, path: Roman Garnett → Charles Chui → Erdős Pál.

# Publications

My Google Scholar profile is available [here](#).

## CONFERENCE PAPERS (PEER REVIEWED)

- 2018 SA OATLEY, D OGLIC, SJF MACDONALD, T MCINALLY, R GARNETT, T GÄRTNER, AND JD HIRST. Active Search for Computer-Aided Drug Design. *International Conference on Chemical Structures (ICCS 2018)*.
- 2018 T DARWIN, R GARNETT, AND D DJURDJANOVIC. Gaussian Process Regression for Virtual Metrology of Microchip Quality and the Resulting Selective Sampling Scheme. *International Conference on the Industry 4.0 model for Advanced Manufacturing (AMP 2018)*.
- 2017 S JIANG, G MALKOMES, G CONVERSE, A SHOFNER, B MOSELEY, AND R GARNETT. Efficient nonmyopic active search. *International Conference on Machine Learning (ICML 2017)*.
- 2017 G MALKOMES, K LU, B HOFFMAN, R GARNETT, B MOSELEY AND RP MANN. Cooperative Set Function Optimization Without Communication or Coordination. *International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2017)*.
- 2017 JR GARDNER, C GUO, KQ WEINBERGER, R GARNETT, AND R GROSSE. Discovering and Exploiting Additive Structure for Bayesian Optimization. *International Conference on Artificial Intelligence and Statistics (AISTATS 2017)*.
- 2017 Y MA, R GARNETT, AND J SCHNEIDER. Active Search for Sparse Signals with Region Sensing. *AAAI Conference on Artificial Intelligence (AAAI 2017)*.
- 2017 D OGLIC, R GARNETT, AND T GÄRTNER. Active Search in Intensionally Specified Structured Spaces. *AAAI Conference on Artificial Intelligence (AAAI 2017)*.
- 2016 G MALKOMES, C SCHAFF, AND R GARNETT. Bayesian Optimization for Automated Model Selection. *Conference on Neural Information Processing Systems (NIPS 2016)*.
- 2016 S CARR, R GARNETT, AND C LO. BASC: Applying Bayesian Optimization to the Search for Global Minima on Potential Energy Surfaces. *International Conference on Machine Learning (ICML 2016)*.
- 2015 JR GARDNER, G MALKOMES, R GARNETT, KQ WEINBERGER, D BARBOUR, AND JP CUNNINGHAM. Bayesian Active Model Selection with an Application to Automated Audiometry. *Conference on Neural Information Processing Systems (NIPS 2015)*.
- 2015 R GARNETT, S HO, AND J SCHNEIDER. Finding Galaxies in the Shadows of Quasars with Gaussian Processes. *International Conference on Machine Learning (ICML 2015)*.
- 2015 MJ KUSNER, JR GARDNER, R GARNETT, AND KQ WEINBERGER. Differentially Private Bayesian Optimization. *International Conference on Machine Learning (ICML 2015)*.
- 2015 Y MA, D SUTHERLAND, R GARNETT, AND J SCHNEIDER. Active Pointillistic Pattern Search. *International Conference on Artificial Intelligence and Statistics (AISTATS 2015)*.

- 2014 T GUNTER, MA OSBORNE, R GARNETT, P HENNIG, AND SJ ROBERTS. Sampling for Inference in Probabilistic Models with Fast Bayesian Quadrature. *Conference on Neural Information Processing Systems (NIPS 2014)*.
- 2014 R GARNETT, T GÄRTNER, T ELLERSIEK, E GUÐMONDSSON, AND P ÓSKARSSON. Predicting Unexpected Influxes of Players in EVE Online. *IEEE Conference on Computational Intelligence and Games (CIG 2014)*.
- 2014 R GARNETT, MA OSBORNE, AND P HENNIG. Active Learning of Linear Embeddings for Gaussian Processes. *Conference on Uncertainty in Artificial Intelligence (UAI 2014)*.
- 2014 K KERSTING, M MLADENOV, R GARNETT, AND M GROHE. Power Iterated Color Refinement. *AAAI Conference on Artificial Intelligence (AAAI 2014)*.
- 2014 Y MA, R GARNETT, AND J SCHNEIDER. Active Area Search via Bayesian Quadrature. *International Conference on Artificial Intelligence and Statistics (AISTATS 2014)*.
- 2013 Y MA, R GARNETT, AND J SCHNEIDER.  $\Sigma$ -Optimality for Active Learning on Gaussian Random Fields. *Conference on Neural Information Processing Systems (NIPS 2013)*.
- 2013 M NEUMANN, R GARNETT, AND K KERSTING. Coinciding Walk Kernels: Parallel Absorbing Random Walks for Learning with Graphs and Few Labels. *Asian Conference on Machine Learning (ACML 2013)*.
- 2013 X WANG, R GARNETT, AND J SCHNEIDER. Active Search on Graphs. *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2013)*.
- 2012 MA OSBORNE, D DUVENAUD, R GARNETT, CE RASMUSSEN, SJ ROBERTS, AND Z GHAHRAMANI. Active Learning of Model Evidence Using Bayesian Quadrature. *Conference on Neural Information Processing Systems (NIPS 2012)*.
- 2012 M NEUMANN, N PATRICIA, R GARNETT, AND K KERSTING. Efficient Graph Kernels by Randomization. *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML/PKDD 2012)*.
- 2012 R GARNETT, Y KRISHNAMURTHY, X XIONG, J SCHNEIDER, AND RP MANN. Bayesian Optimal Active Search and Surveying. *International Conference on Machine Learning (ICML 2012)*.
- 2012 MA OSBORNE, R GARNETT, K SWERSKY, AND N DE FREITAS. Prediction and Fault Detection of Environmental Signals with Uncharacterised Faults. *AAAI Conference on Artificial Intelligence (AAAI 2012)*.
- 2012 MA OSBORNE, R GARNETT, SJ ROBERTS, C HART, S AIGRAIN, AND N GIBSON. Bayesian Quadrature for Ratios. *International Conference on Artificial Intelligence and Statistics (AISTATS 2012)*.
- 2010 MA OSBORNE, R GARNETT, AND SJ ROBERTS. Active Data Selection for Sensor Networks with Faults and Changepoints. *IEEE International Conference on Information Networking and Applications (AINA 2010)*.
- 2010 R GARNETT, MA OSBORNE, AND SJ ROBERTS. Bayesian Optimization for Sensor Set Selection. *ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN 2010)*.

- 2009 R GARNETT, MA OSBORNE, AND SJ ROBERTS. Sequential Bayesian Prediction in the Presence of Changepoints. *International Conference on Machine Learning (ICML 2009)*.
- 2009 MA OSBORNE, R GARNETT, AND SJ ROBERTS. Gaussian Processes for Global Optimization. *International Conference on Learning and Intelligent Optimization (LION 2009)*.
- JOURNAL PAPERS
- 2018 SB POWELL, R GARNETT, J MARSHALL, C RIZK, AND V GRUEV. Bioinspired polarization vision enables underwater geolocalization. *Science Advances*, 4(4): eaa06841.
- 2018 DL BARBOUR, JC DILORENZO, KA SUKESAN, XD SONG, JY CHEN, EA DEGEN, KL HEISEY, AND R GARNETT. Conjoint psychometric field estimation for bilateral audiometry. *Behavior Research Methods*, to appear.
- 2018 D OGLIC, SA OATLEY, SJF MACDONALD, T MCINALLY, R GARNETT, JD HIRST, AND T GÄRTNER. Active Search for Computer-Aided Drug Design. *Molecular Informatics*, 37(1–2): 1700130.
- 2017 R GARNETT, S HO, S BIRD, AND J SCHNEIDER. Detecting damped Ly $\alpha$  absorbers with Gaussian processes. *Monthly Notices of the Royal Astronomical Society*, 472(2): 1850–1865.
- 2017 X SONG, R GARNETT, AND D BARBOUR. Psychometric function estimation by probabilistic classification. *Journal of the Acoustical Society of America*, 141(4): 2513–2525.
- 2016 S BIRD, R GARNETT, AND S HO. Statistical properties of damped Lyman-alpha systems from Sloan Digital Sky Survey DR12. *Monthly Notices of the Royal Astronomical Society*, 466(2): 2111–2122.
- 2016 SF CARR, R GARNETT, AND CS LO. Accelerating the search for global minima on potential energy surfaces using machine learning. *Journal of Chemical Physics*, 145: 154106.
- 2015 M NEUMANN, R GARNETT, K KERSTING, AND C BAUCKHAGE. Propagation Kernels: Efficient Graph Kernels from Propagated Information. *Machine Learning*, 102(2): 209–245.
- 2015 RP MANN AND R GARNETT. The Entropic Basis of Collective Behaviour. *Journal of the Royal Society Interface*, 12(106): 20150037.
- 2015 R GARNETT, T GÄRTNER, M VOGT, AND J BAJORATH. Introducing the ‘Active Search’ Method for Iterative Virtual Screening. *Journal of Computer-Aided Molecular Design*, 29(4): 305–314.
- 2013 RP MANN, A PERNA, D STRÖMBOM, R GARNETT, JE HERBERT-READ, DJT SUMPTER, AND AJW WARD. Multi-scale Inference of Interaction Rules in Animal Groups using Bayesian Model Selection. *PLoS Computational Biology*, 9(3): e1002961.
- 2011 RP MANN, R FREEMAN, MA OSBORNE, R GARNETT, C ARMSTRONG, J MEADE, D BIRO, T GUILFORD, AND SJ ROBERTS. Objectively Identifying Landmark Use and Predicting Flight Trajectories of the Homing Pigeon using Gaussian Processes. *Journal of the Royal Society Interface*, 8(55): 210–219.
- 2010 D LOWNE, SJ ROBERTS, AND R GARNETT. Sequential Nonstationary Dynamic Classification with Sparse Feedback. *Pattern Recognition*, 43(3): 897–905.

2010 R GARNETT, MA OSBORNE, S REECE, A ROGERS, AND SJ ROBERTS. Sequential Bayesian Prediction in the Presence of Changepoints and Faults. *The Computer Journal*, 43(9): 1430–1446.

2005 R GARNETT, T HUEGERICH, W HE, AND C CHUI. A Universal Noise Removal Algorithm with an Impulse Detector. *IEEE Transactions on Image Processing*, 14(11): 1747–1754.

#### CONFERENCE PAPERS (ABSTRACT SUBMISSION)

2013 R GARNETT, RP MANN, AND T GÄRTNER. Animal Foraging via Optimal Search. *International Conference on Models in Population Dynamics and Ecology (MPDE 2013)*.

2011 R LONKAR, A DUBRAWSKI, M FITERAU, AND R GARNETT. Mining Intensive Care Vitals for Leading Indicators of Adverse Health Events. *Conference of the International Society for Disease Surveillance (ISDS 2011)*.

2011 RP MANN, A PERNA, D STRÖMBOM, DJT SUMPTER, R GARNETT, JE HERBERT-READ, AND AJW WARD. Prawns and Probability. *International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering (MAXENT 2011)*.

2009 RP MANN, R FREEMAN, MA OSBORNE, R GARNETT, J MEADE, C ARMSTRONG, D BIRO, T GUILFORD, AND SJ ROBERTS. Gaussian Processes for Prediction of Homing Pigeon Flight Trajectories. *International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering (MAXENT 2009)*.

2008 MA OSBORNE, R GARNETT, AND SJ ROBERTS. Gaussian Processes for Global Optimization. *Yalta Conference on Discrete and Global Optimization*.

#### WORKSHOP PAPERS

2017 S JIANG, G MALKOMES, M ABBOTT, B MOSELEY, AND R GARNETT. Efficient nonmyopic batch active search. Bayesian Optimization for Science and Engineering, *Conference on Neural Information Processing Systems (NIPS 2017)*.

2017 H CHAI AND R GARNETT. An Improved Bayesian Framework for Quadrature. Advances in Approximate Bayesian Inference, *Conference on Neural Information Processing Systems (NIPS 2017)*.

2017 G MALKOMES AND R GARNETT. Towards Automated Bayesian Optimization. AutoML, *International Conference on Machine Learning (ICML 2017)*.

2016 S JIANG, G MALKOMES, G CONVERSE, A SHOFNER, R GARNETT, AND B MOSELEY. Efficient Nonmyopic Active Search. Bayesian Optimization: Black-box Optimization and Beyond, *Conference on Neural Information Processing Systems (NIPS 2016)*.

2016 Y MA, R GARNETT, J SCHNEIDER, AND AG WILSON. Active Search for Sparse Signals with Region Sensing. Practical Bayesian Nonparametrics, *Conference on Neural Information Processing Systems (NIPS 2016)*.

2016 G MALKOMES, C SCHAFF, AND R GARNETT. Bayesian Optimization for Automated Model Selection. AutoML, *International Conference on Machine Learning (ICML 2016)*.

- 2015 G MALKOMES AND R GARNETT. Active Structure Discovery for Gaussian Processes. *AutoML, International Conference on Machine Learning (ICML 2015)*.
- 2014 D OGLIC, R GARNETT, AND T GÄRTNER. Learning to Construct Novel Structures. *Discrete Optimization in Machine Learning, Conference on Neural Information Processing Systems (NIPS 2014)*.
- 2014 Y MA, R GARNETT, D SOUTHERLAND, AND J SCHNEIDER. Active Pointillistic Pattern Search. *Bayesian Optimization in Academia and Industry, Conference on Neural Information Processing Systems (NIPS 2014)*.
- 2014 MJ KUSNER, R GARNETT, JR GARDNER, AND KQ WEINBERGER. Differentially Private Bayesian Optimization. *Bayesian Optimization in Academia and Industry, Conference on Neural Information Processing Systems (NIPS 2014)*.
- 2014 D PAURAT, R GARNETT, AND T GÄRTNER. Interactive Exploration of Larger Pattern Collections: A Case Study on a Cocktail Dataset. *Interactive Data Exploration and Analytics, ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2014)*.
- 2013 D PAURAT, R GARNETT, AND T GÄRTNER. Constructing Cocktails from a Cocktail Map. *Constructive Machine Learning, Conference on Neural Information Processing Systems (NIPS 2013)*.
- 2013 M NEUMANN, P MORENO, L ANTANAS, R GARNETT, AND K KERSTING. Graph Kernels for Object Category Prediction in Task-Dependent Robot Grasping. *Mining and Learning with Graphs, ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2013)*.
- 2013 M NEUMANN, R GARNETT, AND K KERSTING. Coinciding Walk Kernels. *Mining and Learning with Graphs, ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2013)*.
- 2012 R GARNETT, S HO, AND J SCHNEIDER. Gaussian Processes for Identifying Damped Lyman- $\alpha$  Systems in Spectrographic Surveys. *Modern Nonparametric Methods in Machine Learning, Conference on Neural Information Processing Systems (NIPS 2012)*.
- 2012 Y MA, R GARNETT, AND J SCHNEIDER. Submodularity in Batch Active Learning and Survey Problems on Gaussian Random Fields. *Discrete Optimization in Machine Learning, Conference on Neural Information Processing Systems (NIPS 2012)*.
- 2012 X WANG, R GARNETT, AND J SCHNEIDER. An Impact Criterion for Active Graph Search. *Bayesian Optimization and Decision Making, Conference on Neural Information Processing Systems (NIPS 2012)*.
- 2012 M NEUMANN, R GARNETT, P MORENO, N PATRICIA, AND K KERSTING. Propagation Kernels for Partially Labeled Graphs. *Mining and Learning with Graphs, International Conference on Machine Learning (ICML 2012)*.
- 2011 MA OSBORNE, R GARNETT, K SWERSKY, AND N DE FREITAS. A Machine Learning Approach to Pattern Detection and Prediction for Environmental Monitoring and Water Sustainability. *Machine Learning for Global Challenges, International Conference on Machine Learning (ICML 2011)*.

- 2011 R GARNETT, Y KRISHNAMURTHY, D WANG, J SCHNEIDER, AND RP MANN. Bayesian Optimal Active Search on Graphs. Mining and Learning with Graphs, *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD 2011)*.
- 2009 R GARNETT, MA OSBORNE, AND SJ ROBERTS. Gaussian Processes for Global Optimization. Adaptive Sensing, Active Learning, and Experimental Design, *Conference on Neural Information Processing Systems (NIPS 2009)*.
- 2009 MA OSBORNE, R GARNETT, AND SJ ROBERTS. Active Data Selection with Faults and Change-points. Adaptive Sensing, Active Learning, and Experimental Design, *Conference on Neural Information Processing Systems (NIPS 2009)*.
- 2009 R GARNETT, MA OSBORNE, S REECE, AND SJ ROBERTS. Sequential Gaussian Process Prediction in the Presence of Changepoints and Faults. Temporal Segmentation, *Conference on Neural Information Processing Systems (NIPS 2009)*.

#### TECHNICAL REPORTS

- 2009 S REECE, R GARNETT, MA OSBORNE, AND SJ ROBERTS. Anomaly Detection and Removal Using Non-stationary Gaussian Processes. Pattern Analysis and Machine Learning Group, University of Oxford.

#### PREPRINTS

- 2016 H CHAI AND R GARNETT. An Improved Bayesian Framework for Quadrature of Constrained Integrands. arXiv preprint arXiv:1802.04782 [cs.LG].

#### THESES

- 2010 R GARNETT. Learning from Data Streams with Concept Drift. DPhil thesis, University of Oxford.
- 2004 R GARNETT. Modeling Local Video Statistics for Anomaly Detection. MSc thesis, Washington University in St. Louis.

## Invited Talks

- 2017 Metalearning Symposium, Conference on Neural Information Processing Systems (NIPS 2017), Long Beach, CA, USA.
- 2017 Applied Mathematics Seminar, Brown University, Providence, RI, USA.
- 2017 Mechanical Engineering Seminar, Massachusetts Institute of Technology, Boston, MA, USA.
- 2017 Machine Learning Seminar, University of Toronto, Toronto, ON, Canada.
- 2017 Probabilistic Scientific Computing Workshop, ICERM, Providence, RI, USA.
- 2017 Monsanto Science Fellows Symposium, Monsanto, St. Louis, MO, USA.
- 2016 Bayesian Optimization Workshop, Conference on Neural Information Processing Systems (NIPS 2016), Barcelona, Spain.
- 2016 Dagstuhl Seminar: New Directions for Learning with Kernels and Gaussian Processes, Schloss Dagstuhl, Wadern, Germany.

- 2016 Statistics Seminar, University of Oxford Department of Statistics, Oxford, United Kingdom.
- 2016 Statistics Seminar, University of Leeds Department of Statistics, Leeds, United Kingdom.
- 2016 Data Science Seminar, University of Nottingham School of Computer Science, Nottingham, United Kingdom.
- 2016 Automated Algorithm Design Seminar, University of Freiburg Department of Computer Science, Freiburg, Germany.
- 2016 Probabilistic Numerics: Integrating Inference with Integration, IMS–ISBA Joint Meeting: Bayes Comp, Lenzerheide, Switzerland.
- 2015 Probabilistic Integration Workshop, Conference on Neural Information Processing Systems (NIPS 2015), Montreal, Québec, Canada.
- 2014 Learning & Adaptive Systems Seminar, ETH Zürich Department of Computer Science, Zürich, Switzerland.
- 2014 Machine Learning Seminar, University of Cambridge Engineering Department, Cambridge, UK.
- 2014 Computer Science Colloquium, Washington University in St. Louis, St. Louis, MO, USA.
- 2014 Computer Science Seminar, Virginia Tech, Blacksburg, VA, USA.
- 2012 Machine Learning Seminar, University of Toronto, Toronto, Canada.
- 2012 College of Information Sciences and Technology Seminar Series, The Pennsylvania State University, University Park, PA, USA.
- 2012 Knowledge Discovery and Machine Learning Reading Group, Fraunhofer Institute for Intelligent Analysis and Information Systems (IAIS), Bonn, Germany.
- 2012 Statistical Methods Seminar Series, National Security Agency, Ft. Meade, MD, USA.
- 2011 Centre for Interdisciplinary Mathematics Complex Systems Working Lunch, Uppsala University, Uppsala, Sweden.
- 2010 Statistical Methods Seminar Series, National Security Agency, Ft. Meade, MD, USA.

## Campus and Departmental Talks

- 2016 Astrophysics Seminar, Department of Physics.
- 2015 Seminar Series, Institute of Materials Science and Engineering.
- 2015 Probability and Statistics Reading Group, Department of Mathematics.
- 2015 Machine Learning Lunch Seminar, Department of Computer Science and Engineering.

## Professional Service

### COMMITTEE MEMBERSHIP

- 2015– Publications and Electronic Proceedings Chair. *Conference on Neural Information and Processing Systems (NIPS)*.

### EDITORIAL POSITIONS

- 2018– Associate editor, *Frontiers in Big Data*.
- 2018 Guest editor, special issue on Bayesian optimization, *Journal of Machine Learning Research*.



#### WORKSHOPS CO-ORGANIZED

- 2018 Automated Machine Learning. *Federated AI Meeting (FAIM)*.
- 2017 Automated Machine Learning. *International Conference on Machine Learning (ICML)*.
- 2015 Constructive Machine Learning. *International Conference on Machine Learning (ICML)*.
- 2013 Constructive Machine Learning. *Conference on Neural Information and Processing Systems (NIPS)*.
- 2012 Bayesian Optimization and Decision Making. *Conference on Neural Information and Processing Systems (NIPS)*.
- 2011 Bayesian Optimization, Experimental Design and Bandits: Theory and Applications. *Conference on Neural Information and Processing Systems (NIPS)*.

#### JOURNAL REVIEWING (2015–2018)

*Journal of Machine Learning Research*  
*Machine Learning*  
*Proceedings of the IEEE* (Special Issue: Big Data: Science Perspective)  
*IEEE Transactions on Pattern Analysis and Machine Intelligence*  
*Operations Research*  
*Data Mining and Knowledge Discovery*  
*GigaScience*  
*Journal of Heuristics*

#### CONFERENCE REVIEWING (SENIOR PROGRAM COMMITTEE MEMBER) (2015–2018)

*International Conference on Machine Learning (ICML)*  
*AAAI Conference on Artificial Intelligence (AAAI)*

#### CONFERENCE REVIEWING (PROGRAM COMMITTEE MEMBER) (2015–2018)

*Conference on Neural Information and Processing Systems (NIPS)*  
*International Conference on Machine Learning (ICML)*  
*AAAI Conference on Artificial Intelligence (AAAI)*  
*Conference on Uncertainty in Artificial Intelligence (UAI)*  
*International Conference on Statistics in Artificial Intelligence (AISTATS)*  
*ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)*

#### WORKSHOP REVIEWING (2015–2018)

Automated Machine Learning Workshop, *International Conference on Machine Learning (AUTOML)*  
Bayesian Optimization Workshop, *Conference on Neural Information and Processing Systems (BAYESOPT)*

## Teaching Experience

### Washington University in St. Louis

Instructor, Introduction to Artificial Intelligence (CSE 511A), 4 semesters  
Instructor, Bayesian Methods in Machine Learning (CSE 515T), 3 semesters  
Instructor, Research Seminar on Machine Learning (CSE 7100), 7 semesters

## University of Bonn

Supervisor, Principles of Data Mining and Learning Algorithms: Online Learning Methods  
(MA-INF 4209)

## Student Advising

### PHD STUDENTS (PRIMARY ADVISOR)

- 2016– Henry Chai, Washington University in St. Louis, expected graduation: 2021.
- 2015– Shali Jiang, Washington University in St. Louis, expected graduation: 2020.
- 2015– Gustavo Malkomes, Washington University in St. Louis, expected graduation: 2019.

### PHD STUDENTS (SECONDARY ADVISOR/COMMITTEE MEMBER)

- 2012–2017 Yifei Ma, Carnegie Mellon University. Thesis: *Active Search with Complex Actions and Rewards*

### MASTER'S THESES/PROJECTS SUPERVISED

- 2016–2017 James DiLorenzo, Washington University in St. Louis. Thesis: *Active Learning for Bilateral Audiometry*
- 2015–2016 Stephen Decker, Washington University in St. Louis. Project: *Visualization of Human Movement Patterns for Social Science*
- 2015–2016 Paul Egger, Washington University in St. Louis. Project: *Analyzing Movement Patterns in Massive Multiplayer Online Role-Playing Games*
- 2015 Shane Carr, Washington University in St. Louis. Thesis: *Applying Bayesian Machine Learning Methods to Surface Chemistry Calculations*
- 2014–2015 Shan Huang, University of Bonn. Thesis: *Batch Active Search via Determinantal Point Processes*

## Funding

- 2018– Amazon AWS ML Research Award: Automatic Measurement of Quasar Distance, \$75,000.
- 2018– DARPA: Automated Discovery with Bayesian Optimization: From a Bag of Models to the Best Model, \$100,000, 4/2018–3/2019.
- 2016– NSF: REU Site: Big Data Analytics, \$359,111, 4/2016–3/2019.
- 2015– ARPA-E: A reference phenotyping system for energy sorghum, \$847,296, 9/2015–9/2019.
- 2015– NSF: The Missouri Transect: Climate, plants, and community, \$569,945, 8/2014–7/2019.