CURRICULUM VITAE

09/20/2025

Ryan Urbanowicz

CURRENT POSITIONS:

2023-present	Research Assistant Professor, Department of Computational Biomedicine, Cedars-Sinai
2021-present	Adjunct Assistant Professor, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania

PROFESSIONAL CONTACT INFORMATION

Business Address: Cedars-Sinai Medical Center, Computational Biomedicine, 700 N. San Vicente Blvd. Pacific Design Center Suite G541E, Los Angeles, CA, 90069, United States

Phone: (310) 423-3202

Email: Ryan.Urbanowicz@cshs.org

EDUCATION:

2000-2004	BS, Biological and Environmental Engineering, Cornell University, Ithaca, NY, United States
2004-2005	MEng, Biological and Environmental Engineering, Cornell University, Biological and Environmental Engineering, Ithaca, NY, United States
2005-2012	PhD, Genetics/Computational Biology, Dartmouth College, Genetics, Hanover, NH, United States
2012-2015	Postdoctoral Research Fellow (K25), Statistics and Computational Biomedicine, Dartmouth College, Genetics, Hanover, NH, United States

PREVIOUS POSITIONS:

12/2012-02/2013	Faculty Member, Department of Citizen Science Program, Bard College
09/2015-06/2018	Research Associate, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania
07/2018-12/2021	Assistant Professor, Department of Biostatistics, Epidemiology, and Informatics, University of Pennsylvania
12/2021-06/2023	Research Scientist II, Department of Computational Biomedicine, Cedars-Sinai

PROFESSIONAL ACTIVITIES:

Cedars-Sinai Committee Service:

05/2022-	Member, Computational Biomedicine Grand Rounds Organizing Committee
05/2022-	Chair, Science Cafe (Bimonthly Seminar Series), Department of Computational Biomedicine
11/2022-	Co-Organizer, Artificial Intelligence (AI) Campus Educational Program
04/2023-	Member, Research IT Advisory Committee
10/2023-	Ad-hoc Voting Member, Protocol Review and Monitoring Committee
01/2024-	Director, Artificial Intelligence (AI) Campus Educational Program
01/2025-	Member, PhD in Health AI Admissions Commitee

Other Committee Service:

01/2007-01/2008	Graduate Student Representative, Molecular and Cellular Biology (MCB)

	Graduate Committee, Dartmouth College
01/2009-01/2009	Chair, Session on Bioinformatics and Computational Biology, Genetic and Evolutionary Computing Conference (GECCO'09)), Montreal, Canada
01/2010-07/2014	Co-Organizer, International Workshop on Learning Classifier Systems (IWLCS), Genetic and Evolutionary Computing Conference
01/2011-07/2011	Co-Chair, International Workshop on Learning Classifier Systems (IWLCS), Genetic and Evolutionary Computing Conference (GECCO'11), Dublin, Ireland
01/2012-	Member, Program Committee, International Workshop on Learning Classifier Systems (IWLCS), Genetic and Evolutionary Computing Conference
01/2012-01/2012	Chair, Session on Genetics Based Machine Learning, Genetic and Evolutionary Computing Conference (GECCO'12), Philadelphia, Pennsylvania
01/2012-07/2012	Co-Chair, International Workshop on Learning Classifier Systems (IWLCS), Genetic and Evolutionary Computing Conference (GECCO'12), Philadelphia, Pennsylvania
01/2013-01/2013	Chair, Session on Genetics Based Machine Learning, Genetic and Evolutionary Computing Conference (GECCO'12), Amsterdam, Netherlands
01/2013-07/2013	Co-Chair, International Workshop on Learning Classifier Systems (IWLCS), Genetic and Evolutionary Computing Conference (GECCO'13), Amsterdam, Netherlands
01/2014-01/2018	Member, Program Committee, Evolutionary Machine Learning Track, Genetic and Evolutionary Computation Conference (GECCO)
07/2014-07/2015	Co-Chair, Biological and Biomedical Applications Track, Genetic and Evolutionary Computing Conference (GECCO'15), Madrid, Spain
01/2015-01/2015	Chair, Hot off the Press Session, Genetic and Evolutionary Computing Conference (GECCO'15), Madrid, Spain
08/2015-07/2016	Co-Organizer, International Workshop on Evolutionary Rule-Based Machine Learning, Genetic and Evolutionary Computing Conference (GECCO'16), Denver, Colorado
01/2016-	Member, Program Committee, Artificial Intelligence in Medicine (AIME)
08/2016-07/2017	Lead-Organizer, International Workshop on Evolutionary Rule-Based Machine Learning, Genetic and Evolutionary Computing Conference (GECCO'17), Berlin, Germany
01/2017-09/2017	Member, Program Committee, Translational Bioinformatics Conference (TBC)
01/2017-04/2018	Member, Program Committee, European Conference on Evolutionary Computation (EvoBIO)
09/2017-07/2018	Co-Organizer, Workshop on New Standards for Benchmarking in Evolutionary Computation Research, Genetic and Evolutionary Computation Conference (GECCO'18), Kyoto, Japan
01/2018-11/2018	Member, Program Committee, International Conference on Advanced Computational Intelligence (ICACI)
01/2018-07/2019	Member, Program Committee, Black-Box Benchmarking for Discrete Optimization" (BB-DOB) Workshop, Genetic and Evolutionary Computation Conference (GECCO)
01/2019-01/2019	Grant Reviewer, American Heart Association (AHA)
01/2019-07/2021	Member, Program Committee, Special Session on Benchmarking of Computational Intelligence Algorithms (BOCIA), Congress on Evolutionary Computation
01/2019-12/2021	Member, Graduate Group in Genetics and Computational Biology (GCB), University of Pennsylvania

01/2020-09/2020	Member, Program Committee, Parallel Problem Solving from Nature (PPSN) Conference
01/2020-10/2021	Member, Program Committee, International Joint Conference on Rules and Reasoning (RuleML+RR)
01/2020-12/2021	Member, Graduate Group in Epidemiology and Biostatistics (GGEB), University of Pennsylvania
01/2020-12/2021	Member, Genetics and Computational Biology Retreat Organizing Committee, University of Pennsylvania
04/2021-06/2021	Grant Reviewer, Review Panel for MCST-14: Small Business - Computational Modeling and Biodata Management (SBIR/STTR), The National Institutes of Health
01/2022-09/2022	Member, Program Committee, Declarative Artificial Intelligence Conference
05/2022-10/2022	Member, GPTP Sandbox Organizing Committee, Genetic Programming Theory and Practice
09/2022-11/2022	Grant Reviewer, Review Panel for Congressionally Directed Medical Research Programs (CDMRP PCRP) DS-1, Department of Defense
01/2023-03/2023	Grant Reviewer, Review panel for 'SuRE First', The National Institutes of Health
03/2023-03/2023	Grant Reviewer, Research Grants, Israel Science Foundation
09/2023-11/2023	Grant Reviewer, Review Panel for MCST-14: Small Business - Computational Modeling and Biodata Management (SBIR/STTR), The National Institutes of Health
03/2024-04/2024	Grant Reviewer, Review Panel for MCST-B(16) Small Business - Computational Modeling and Biodata Management, The National Institutes of Health
06/2024-07/2024	Ad-hoc Grant Reviewer, Review Panel for BCRP IMM-3 Breast Cancer Research Program, Department of Defense
07/2024-09/2024	Chair, Genetic Programming Session, Genetic and Evolutionary Computing Conference (GECCO'24), Melbourne, Australia
11/2024-07/2025	Co-Chair, Evolutionary Machine Learning Track, Genetic and Evolutionary Computing Conference (GECCO'25), Malaga, Spain
04/2025-	Associate Executive Director, Leadership Committee, National AI Campus

Professional Associations/Society Memberships:

01/2006-	Member, International Society of Computational Biology (ISCB)
01/2007-	Member, American Society of Human Genetics (ASHG)
01/2007-	Member, Association for Computing Machinery (ACM)
01/2012-	Member, International Genetic Epidemiology Society (IGES)
01/2019-	Member, Institute of Electrical and Electronics Engineers (IEEE)
09/2024-	Member, American Society for Histocompatibility and Immunogenetics (ASHI)

Community Service:

01/2000-01/2014	Mentor, Merit Badge Counselor, Adult Leader, Boy Scouts of America
01/2001-01/2005	Member, Volunteer Firefighter and Emergency Medical Technician (EMT), Cayuga Heights Fire Department
01/2009-01/2012	Volunteer Acoustic Guitar Musician/Performer, Dartmouth Hitchcock Medical Center
01/2015-01/2024	Alumni Ambassador, Cornell Alumni Admissions Ambassadors Network (CAAAN)

03/2024-03/2024	Volunteer/Educator, Los Angeles Youth Program Event, Black Men in White Coats
07/2024-	Volunteer Performer, Acoustic Guitar Musician, Cedars Sinai Musician's Ensemble Program
03/2025-03/2025	Presenter, High School STEM Career Paths, Oscar De La Hoya High School, Los Angeles

MENTORING:

Thesis and Dissertation Advisee:

03/2019-07/2021	Zihe (Emma) Zheng, Doctoral Committee, PhD, Member, (PI: Dr. Harold Feldman), Graduate Group in Epidemiology and Biostatistics (GGEB), University of Pennsylvania
02/2020-08/2021	Pankhuri Singhal, Doctoral Committee, PhD, Member, (PI: Dr. Marylyn Ritchie), Cell and Molecular Biology Graduate Group (CAMB), University of Pennsylvania
08/2020-12/2021	Alexa Woodward, Doctoral Committee, PhD, Chair, (PI: Dr. Jason Moore), Graduate Group in Center for Clinical Epidemiology and Biostatistics (CCEB), University of Pennsylvania
09/2020-11/2022	Yun Hao, Doctoral Committee, PhD, Member, (PI: Dr. Jason Moore), Graduate Group of Genetics and Computational Biology (GCB), University of Pennsylvania
10/2020-04/2023	Francesca Mandel, Doctoral Committee, PhD, Member, (PI: Dr. Ian Barnett), Center for Clinical Epidemiology and Biostatistics (CCEB), University of Pennsylvania
05/2021-11/2021	Mateusz Garbulowski, Doctoral Committee, PhD, Opponent, (PI: Dr. Jan Komorowski), Uppsala University, Uppsala, Sweden
12/2021-11/2022	Alexa Woodward, Doctoral Committee, PhD, Member, (PI: Dr. Jason Moore), Graduate Group in Center for Clinical Epidemiology and Biostatistics (CCEB), University of Pennsylvania
10/2023-12/2023	(9 students) Satyastri Atchyuta Nayuddu Adhikari, Alekhy Dasari, Santosh Guntuka, Siddardha Kavuri, Ganesh Kommalapati, Dinesh Kumar Konanki, Sai Keertana Padmanabham, Sai Satya Aditya Rambhatla, Sheetal Sannakki, Masters Committee, Masters of Science in Computer Science, Member, (Chair: Jack Han), California State University Domingo Hills
10/2023-02/2024	Zhendong Sha, Doctoral Committee, PhD, External Examiner, (PI: Ting Hu), Queens University, Kingston, Ontario, Canada
01/2024-05/2024	(17 students) Chitralekha Chaudhari, Dhanush G, Akshay Kalsotra, Arvind Vadla, Anusha Gangavarapu, Sashank Karusala, Tanya Dasari, Yashwanth Katukota, Teja Venkata Sai Pavan Koppisetty, Sri Lakshmi Harshita Namuduri, Slesha Reddy Ande, Jayanth Srihaas Karanam, Vishnugupthaa Ramidi, Sumanth Vobhilineeni, Gautham Amarnath, Sahana Deepak, Prerna Reddy Muddasani, Masters Committee, Masters of Science in Computer Science, Member, (Chair: Bing Tang), California State University Domingo Hills
05/2024-12/2024	Peter Tuan Nguyen, Doctoral Committee, PhD, Member, (PI: Denis Hazelett), Cedars-Sinai
10/2024-	Irina Siliacheva, Doctoral Committee, PhD, Member, (PI: Denis Hazelett), Cedars-Sinai

Undergraduate, Medical Student, and Research Intern Mentoring:

05/2008-05/2009	Delaney Granizo-MacKenzie, Research Intern, High School, LCS Project, Research Mentor, Hanover
05/2009-09/2009	Tamra Heberling, Research Intern, Masters Program, GAMETES Project,

	Research Mentor, Montana State University
05/2009-05/2012	Nicholas Sinnott-Armstrong, Research Intern, Undergraduate, GAMETES and LCS (Noise) Projects, Research Mentor, Brown University
08/2009-02/2013	Delaney Granizo-MacKenzie, Research Intern, Undergraduate, LCS (Expert Knowledge) Project, Research Mentor, Princeton University
05/2010-08/2010	Tyler Perry, Research Intern, Undergraduate (Class of 2012), Research Mentor, Dartmouth College
05/2010-08/2015	Ambrose Granizo-MacKenzie, Research Intern, High School, LCS (Vizualization and Attribute Tracking) Projects, Research Mentor, Hanover
05/2012-08/2012	Christine Cuddemi, Research Intern, Undergraduate, Research Mentor, iSURF student, Emmanuelle College
09/2012-07/2013	James Rudd, Research Intern, PhD, LCS (GPU) Project, Research Mentor for Graduate Rotation, Quantitative Biomedical Sciences (QBS), Dartmouth College
09/2012-07/2013	Jie Tan, Research Intern, PhD, LCS (Rule-Compaction) Project, Research Mentor for Graduate Rotation, Molecular and Cellular Biology (MCB), Dartmouth College
05/2013-08/2013	Dzung Pham, Research Intern, Undergraduate (Class of 2014), Research Mentor, Saint Anselm College
05/2013-09/2013	Ryan Amos, Research Intern, Undergraduate (Class of 2016), LCS (GUI) Project, Research Mentor, Dartmouth College
09/2013-07/2014	Gediminas Bertasius, Research Intern, Undergraduate (Class of 2016), ExSTraCS Project, Research Mentor, Dartmouth College
01/2014-05/2014	Elizabeth Piette, Research Intern, PhD, LCS Project, Research Co-Mentor for Graduate Rotation (with Jason Moore), Quantitative Biomedical Sciences (QBS), Dartmouth College
09/2014-02/2017	Niranjan Ramanand, Research Intern, Undergraduate (Class of 2017), LCS (Regression) Project, Research Mentor, Dartmouth College
01/2016-06/2016	Ted Fujimoto, Research Intern, Masters Program in Computer and Information Science, GP-LCS Project, Research Mentor, University of Pennsylvania
05/2016-08/2016	Tuan Nguyen, Research Intern, Undergraduate, Computer Science, LCS ML Comparison Project, Research Mentor, Swarthmore College
05/2016-08/2016	Vishal Murali, Research Intern, Masters Program in Mechanical Engineering, ReBATE (Speed-up) Project, Research Mentor, University of Pennsylvania
05/2016-05/2017	Ben Yang, Research Intern, Undergraduate, Computer Science, GP-LCS Project, Research Mentor, University of Pennsylvania
11/2016-07/2019	Christopher Lo, Research Intern, Undergraduate, Bioengineering, ExSTraCS (AT), SAFE, and HLA Analysis Projects, Research Mentor, University of Pennsylvania
05/2017-03/2020	Siddharth Verma, Research Intern, Undergraduate, Computer Engineering, GP-LCS Project, Remote Research Mentor, University of Delhi, Delhi
05/2017-09/2017	Melissa Meeker, Research Intern, Undergraduate, Mathematics, ReBATE Project, Research Mentor, Ursinus College
11/2017-12/2017	James Xue, Research Intern, Undergraduate, Economics/Statistics (Wharton), LCS Project, Research Mentor, University of Pennsylvania
12/2017-06/2018	Riley Wong, Research Intern, Undergraduate, Computer Science, ED2icu Project, Research Mentor, University of Pennsylvania
01/2018-06/2018	Saurav Bose, Research Intern, Masters Program in Scientific Computing and Mechanical Engineering, ReBATE (Scaling), Research Mentor, University of Pennsylvania

05/2018-08/2018	Alex Xu, Research Intern, Undergraduate, Computer Science, ReBATE (Scaling) Project, Research Mentor, University of Pennsylvania
05/2018-08/2018	Lin Xi, Research Intern, MD, LCS/Deep-Learning (Multiplexer) Project, Research Mentor, University of Pennsylvania Medical School
06/2018-12/2019	Piyush Borole, Research Intern, Masters Program in Computer Science, GP-LCS Project, Research Mentor, University of Pennsylvania
07/2018-09/2018	John Gregg, Research Intern, PhD, TPOT Project, Research Co-Mentor for Graduate Rotation (with Jason Moore), Graduate Group in Genomics and Computational Biology, University of Pennsylvania
09/2018-01/2019	Yuhan Cui, Research Intern, Masters Program in Biotechnology, STREAMLINE Project, Independent Study Research Mentor, University of Pennsylvania
10/2018-02/2019	Zihe (Emma) Zheng, Research Intern, PhD, Obesity Project, Research Co-Mentor (with Harold Feldman), Graduate Group in Epidemiology and Biostatistics (CCEB), University of Pennsylvania
12/2018-05/2019	Maria Turner, Research Intern, Undergraduate, Engineering and Computer Science, GAMETES Project, Research Mentor, University of Pennsylvania
01/2019-05/2019	Sherjeel Arif, Research Intern, Undergraduate, Electrical Engineering, (Class of 2020), AutoML Project, Research Mentor, University of Pennsylvania
05/2019-08/2019	Gabrielle Hemlick, Research Intern, Undergraduate, Arts and Sciences, (Class of 2021), TARPS Project, Research Mentor, University of Pennsylvania
05/2019-08/2019	Seungmin (Kevin) Han, Research Intern, Undergraduate, Engineering & Computer Science, (Class of 2023), ReBATE (Scaling) Project, Research Mentor for Vagelos Integrated Program in Energy Research (VIPER) program, University of Pennsylvania
05/2019-08/2019	Pranshu Suri, Research Intern, Undergraduate, Engineering & Applied Sciences major (Wharton), (Class of 2022), Pancreatic Cancer Project, Research Mentor for Penn Undergraduate Research Mentoring (PURM) Program, University of Pennsylvania
05/2019-08/2019	Robert Zhang, Research Intern, Undergraduate, Engineering & Applied Sciences major (Wharton), (Class of 2022), LCS Project, Research Mentor for Penn Undergraduate Research Mentoring (PURM) Program, University of Pennsylvania
05/2019-09/2019	Alexa Woodward, Research Intern, PhD, ReBATE (Enrichment Analysis) Project, Research Mentor for Graduate Rotation, Graduate Group in Epidemiology and Biostatistics (GGEB), University of Pennsylvania
09/2019-01/2020	Kai (Jeffery) Jin, Research Intern, Masters Program in Biotechnology, Feature Selection Project, Independent Study Research Mentor, University of Pennsylvania
09/2019-01/2020	Yili Du, Research Intern, Masters Program in Biotechnology, EDA Project, Independent Study Research Mentor, University of Pennsylvania
09/2019-04/2020	Ziquing Ye, Research Intern, Masters Program in Biotechnology, PyKE Project, Independent Study Research Mentor, University of Pennsylvania
09/2019-12/2021	Robert Zhang, Research Intern, Undergraduate, Engineering & Applied Sciences major (Wharton), (Class of 2022), STREAMLINE, Sciki-LCS, and LCS-DIVE Projects, Research Mentor, University of Pennsylvania
09/2019-12/2019	Vivek Shiram, Research Intern, Graduate Group in Genetics and Computational Biology (GCB), University of Pennsylvania, GAMETES Project, Research Mentor for Graduate Rotation
01/2020-03/2022	Vivek Shiram, Research Intern, PhD, GAMETES Project, Research Mentor (in collaboration with Dokyoon Kim), Graduate Group in Genetics and Computational Biology (GCB), University of Pennsylvania

05/2020-08/2020	Cindy Xinyu Jiang, Research Intern, Undergraduate, Engineering & Applied Sciences (Wharton), (Class of 2023), AutoML (Multi-class) Project, Research Mentor for Penn Undergraduate Research Mentoring (PURM) Program, University of Pennsylvania
05/2020-08/2020	Yijie Lu, Research Intern, Undergraduate, Engineering & Applied Sciences (Class of 2023), ReBATE Project, Research Mentor for Penn Undergraduate Research Mentoring (PURM) Program, University of Pennsylvania
05/2020-08/2020	Michael (Suyu) Ye, Research Intern, High School, ReBATE (Abs-Val) Project, Research Mentor for Advanced Science Research Program (EXP), Peddie Prepatory
01/2021-12/2021	Wilson Zhang, Research Intern, High School, AutoML Project, Research Mentor, Conestoga
01/2021-12/2021	Richard Zhang, Research Intern, High School, AutoML Project, Research Mentor, Conestoga
01/2021-01/2023	Satvik Desariraju, Research Intern, High School, RARE/FIBERS Project, Research Mentor, Lawrenceville Prepatory
05/2021-08/2021	Keshav Ramji, Research Intern, Undergraduate, AutoML (Deep-Learning) Project, Research Mentor for Penn Undergraduate Research Mentoring (PURM) Program, University of Pennsylvania
05/2021-08/2021	Riju Datta, Research Intern, Undergraduate, AutoML (Multi-class) Project, Research Mentor for Penn Undergraduate Research Mentoring (PURM) Program, University of Pennsylvania
05/2021-08/2021	Arjun Shah, Research Intern, Undergraduate, AutoML (Time-Series) Project, Research Mentor for Penn Undergraduate Research Mentoring (PURM) Program, University of Pennsylvania
05/2021-12/2021	Advaith Hari, Research Intern, High School, ReBATE (SWRF*) Project, Research Mentor for Advanced Science Research Program (EXP), Peddie Prepatory
08/2021-12/2021	Tiffany Huang, Undergraduate, Life Sciences and Management (Wharton), ReBATE Scaling Project, Independent Study Research Mentor (BIOL399), University of Pennsylvania
03/2022-04/2023	Nolan Fogarty, Research Intern, Undergraduate, RARE/FIBERS Projects, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
03/2022-04/2023	Yi-An Hsieh, Research Intern, Undergraduate, RARE/FIBERS (Scikit) Projects, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
04/2022-08/2022	Cindy Yang, Research Intern, Undergraduate, ReBATE (scikit-learn) Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
05/2022-07/2022	DanBi Han, Research Intern, Undergraduate, ExSTraCS Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
06/2022-08/2022	Jessica Kim, Research Intern, Undergraduate, Shapley Project, Research Mentor for Inspiring New Students Through Professional Internships and Research Experience (INSPIRE), Cedars-Sinai
08/2022-12/2022	Bhushan Mohanraj, Research Intern, High School, CodOp Project, Research Co-Mentor (with Chao Lu), Lawrenceville Prepatory
09/2022-05/2023	Xinkai Wang, Research Intern, Masters in Applied Mathematics and Computational Science, STREAMLINE (Regression) Project, Research Co-Mentor (with Li Shen), University of Pennsylvania
09/2022-12/2023	Yanbo Feng, Research Intern, Masters in Bioengineering, STREAMLINE (Regression) Project, Research Co-Mentor (with Li Shen), University of Pennsylvania
09/2022-12/2023	Boning Tong, Research Intern, Masters of Bioengineering, STREAMLINE

	(Multi-class) Project, Research Co-Mentor (with Li Shen), University of Pennsylvania
01/2023-06/2023	Nhat-Ha Pham, Research Intern, Undergraduate, STREAMLINE (Regression) Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
05/2023-07/2023	Antonios Kriezis, Research Intern, Undergraduate, FIBERS (Covariate) Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
05/2023-06/2023	Aneesh Edara, Research Intern, Undergraduate, Research Mentor for PURM (with Malek Kamoun), University of Pennsylvania
05/2023-08/2023	Adam Alkilani, Research Intern, Valencia High School, STREAMLINE (Outlier) and ExSTraCS Projects, Research Mentor for Inspiring New Students Through Professional Internships and Research Experience (INSPIRE), Cedars-Sinai
05/2023-08/2023	Sphia Sadek, Research Intern, Undergraduate, Computer Science and Cognitive Science, FIBERS (Threshold) Project, Research Co-Mentor for PURM (with Malek Kamoun), University of Pennsylvania
05/2023-08/2023	Gabe Ketron, Research Intern, Undergraduate, Biomedical Engineering, STREAMLINE (Imputation) Project, Research Co-Mentor (with Jason Moore), University of California Irvine
06/2023-09/2023	Aryan Roy, Research Intern, Undergraduate Computer Science and Finance, FIBERS (Covariate) Project, Research Co-Mentor for PURM (with Malek Kamoun), University of Pennsylvania
07/2023-12/2023	Kushi Patel, Research Intern, High School, Survival-LCS Project, Research Co-Mentor (with Malek Kamoun), New Jersy
08/2023-12/2023	Emily Lo, Research Intern, Undergraduate, STREAMLINE (Rashomon Sets), Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
08/2023-12/2023	Mehak Dhaliwal, Research Intern, Undergraduate, Computer Science and Economics, STREAMLINE (Logistic Regression) Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
08/2023-04/2024	Andrew Chang, Research Intern, Undergraduate, FIBERS (Pareto) Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
08/2023-12/2024	Vivian Xiao, Research Intern, Undergraduate Engineering, STREAMLINE (Ensemble) Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
12/2023-12/2024	Minghan Sun, Research Intern, Undergraduate, STREAMLINE (Model Application/Explanation) Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
01/2024-	Gabe Lipschutz-Villa, Research Intern, Undergraduate, Rule Inference with Uncertainty and HEROS Projects, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
05/2024-08/2024	Praneel Varshney, Research Intern, Undergraduate, FIBERS (Multi-Threshold) Project, Research Co-Mentor for PURM (with Malek Kamoun), University of Pennsylvania
06/2024-08/2024	Brian Ling, Research Intern, Undergraduate, FIBERS (Survival Time Max) Project, Research Co-Mentor for PURM (with Malek Kamoun), University of Pennsylvania
07/2024-08/2024	Joseph Choi, Research Intern, High School, FIBERS (Interactive Visualization in HEROS) Research Mentor for Inspiring New Students Through Professional Internships and Research Experience (INSPIRE), Cedars-Sinai
09/2024-06/2025	Praneel Varshney, Research Intern, Undergraduate, FIBERS (Multi-Threshold) Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
09/2024-06/2025	Brian Ling, Research Intern, Undergraduate, FIBERS (Survival Time Max) Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania

03/2025-	Khoi Dinh, Research Intern, Undergraduate, HEROS (Rule-set Interpretability with LLMs), Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
03/2025-05/2025	Veer Kakar, Research Intern, Undergraduate, STREAMLINE (Survival Analysis Extension) Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
04/2025-	Varun Kanangat, Research Intern, Undergraduate, FIBERS (Linkage Bins), Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
07/2025-08/2025	Akshita Islam, Research Intern, High School, HERSO (Decision Tree Initialization), Research Mentor for Inspiring New Students Through Professional Internships and Research Experience (INSPIRE), Cedars-Sinai
09/2025-	Viren Bankapur, Research Intern, Undergraduate, TBD Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania
09/2025-	Naishu Vytla, Research Intern, Undergraduate, TBD Project, Research Co-Mentor (with Malek Kamoun), University of Pennsylvania

Editorial Service:

01/2012-01/2015	Guest Associate Editor, Evolutionary Intelligence, Special Issue on Advancements in Learning Classifier Systems
01/2019-	Academic Editor, PLOS ONE
01/2019-01/2020	Guest Associate Editor, Frontiers in Genetics, Special Issue on Bioinformatics and Computational Biology
05/2024-	Guest Associate Editor, Evolutionary Computation Journal, Special Issue on the 30th Anniversary of XCS Classifier System
02/2025-	Member, Editorial Board, GigaScience

Consulting Activities:

01/2014-01/2015	Consultant, MedicFP
01/2020-	Consultant, Blue Halo (formerly Aegis Technologies)

HONORS AND SPECIAL AWARDS:

2000	Eagle Scout, Boy Scouts of America
2004	Teaching Research Specialist Award, Cornell University
2004	New Horizons Summer Research Grant, Cornell University
2007	Department of Energy Travel Award, Pacific Symposium on Biocomputing
2008	Best Paper Nomination, Genetic and Evolutionary Computation Conference (GECCO'18), Atlanta, Georga
2009	Graduate Research Fellowship, William H. Neukom 1964 Institute for Computational Sciences, Dartmouth College
2010	Best Paper Award, Genetic and Evolutionary Computation Conference (GECCO'10), Portland, Oregon
2012	Best Paper Award, Translational Bioinformatics Conference, Jeju, South Korea
2012	R25 Post-Doctoral Training Grant CA134286, NIH
2016	Best Paper Award, EvoBIO, Porto, Portugal
2016	Best Paper Award, Genetic and Evolutionary Computation Conference (GECCO'16), Denver, Colorado
2024	Best Paper Award, Evolutionary Machine Learning Track, Genetic and Evolutionary Computation Conference (GECCO'24), Melbourne, Australia

2025 Scholar Award Winner, American Society of Histocompatibility and Immunogenetics (ASHI), Orlando, Florida

RESEARCH AWARDS AND GRANTS:

Current Grants:

11/1/2021 - 5/31/2026
Penn Artificial Intelligence and Technology Collaboratory for Healthy Aging
University of Pennsylvania #PO# 5622337
Principal Investigator: Jason Moore
Co-Investigator: **Ryan Urbanowicz**
USD 602,007.39

1/1/2022 - 1/1/2027
HLA Immunogenetics and Kidney Allograft Outcomes
National Institutes of Health #1R01AI173095
Co-Investigator: **Ryan Urbanowicz**

7/15/2022 - 8/31/2026
Artificial Intelligence Strategies for Alzheimer's Disease Research
National Institute of Aging #7R01AG066833-02
Principal Investigator: Jason Moore
Co-Investigator: Ruowang Li,**Ryan Urbanowicz**

9/1/2022 - 8/31/2026
Artificial Intelligence Strategies for Alzheimer's Disease Research
National Institute of Aging #5U01AG066833-03
Principal Investigator: Jason Moore
Co-Investigator: Dennis Hazelett,Britney Graham,Ruowang Li,**Ryan Urbanowicz**
USD 8,390,504

11/21/2022 - 10/31/2027
HLA Immunogenetics and kidney allograft outcomes
University of Pennsylvania #586483
Principal Investigator: **Ryan Urbanowicz**
USD 798,564

7/1/2023 - 6/30/2028
Developing a P4 Medicine Approach to Obstructive Sleep Apnea Prime 1 P01 HL 160471 01A1
University of Pennsylvania #588082/PO5471050
Principal Investigator: **Ryan Urbanowicz**
USD 95,432

7/1/2024 - 5/31/2029
Knowledge guided automated machine learning methods for modeling the interaction of HIV with addictive drugs
National Library of Medicine #1R01LM014572-01
Principal Investigator: Jason Moore
Co-Investigator: Itai Danovitch,**Ryan Urbanowicz**
USD 2,738,151

8/15/2024 - 6/30/2029
Undiagnosed Obstructive Sleep Apnea in Primary Care Clinics
Ohio State University #SPC-1000013961 | GR137260
Principal Investigator: **Ryan Urbanowicz**

USD 10,968

9/1/2024 - 6/30/2029
AI Campus Workshop Revolutionizing Healthcare with AI and Machine Learning to Promote Diversity and Inclusion
National Library of Medicine #1R13LM014478-01A1
Principal Investigator: Xiuzhen Huang
Co-Investigator: **Ryan Urbanowicz**
USD 100,000

Past Grants:

Bioinformatics Strategies for Genome Wide Association Studies
National Library of Medicine #7R01LM010098-13
Principal Investigator: Jason Moore
Co-Investigator: **Ryan Urbanowicz**
USD 1,396,834

1/1/2009 - 1/1/2023
Bioinformatics Strategies for Genome-Wide Association Studies
National Library of Medicine #R01 LM010098
Funded: **Ryan Urbanowicz**

1/1/2016 - 1/1/2021
Biomedical Computing and Informatics Strategies for Infectious Disease Research
National Institutes of Health #R01 AI116794
Funded: **Ryan Urbanowicz**

1/1/2016 - 1/1/2021
Approaches to Genetic Heterogeneity of Obstructive Sleep Apnea
National Institutes of Health #R01 HL134015
Funded: **Ryan Urbanowicz**

1/1/2017 - 1/1/2020
Towards Precision Prevention: Testing a Novel Risk Prediction Algorithm in Pancreatic Cancer
U.S. Department of Defense #W81XWH-16-PRCRP-CDA
Funded: **Ryan Urbanowicz**

1/1/2018 - 1/1/2020
Center for Data Integration
Center for Pulmonary Hyptertension Research (CMREF)
Funded: **Ryan Urbanowicz**

1/1/2018 - 1/1/2022
Elucidation of Genetic Effects on Sleep and Circadian Traits
National Institutes of Health #R01 HL143790
Funded: **Ryan Urbanowicz**

1/1/2018 - 1/1/2022
Professional Development Supports for Teaching Bioinformatics through Mobile Computing
National Science Foundation #GM1XX56LEP58
Funded: **Ryan Urbanowicz**

1/1/2019 - 1/1/2021
Genes for Non-Syndromic Congenital Heart Disease
National Institutes of Health #P01 HD070454
Funded: **Ryan Urbanowicz**

1/1/2020 - 1/1/2021
Leveraging Common Fund Data for Feature Selection in Kids First Studies
National Institutes of Health #R03 OD030600
Co-Investigator: **Ryan Urbanowicz**

1/1/2020 - 1/1/2025
MHC and KIR Sequencing and Association Analyses in the iGeneTRAiN Studies
National Institutes of Health #U01 AI152960
Funded: **Ryan Urbanowicz**
USD 1,635,000

9/17/2023 - 9/16/2024
Developing a Research Data Repository or AIM AHEAD Generated Datasets A Collaborative Approach
University of Arkansas at Pine Bluff #GR020500
Principal Investigator: Xiuzhen Huang
Co-Investigator: Jason Moore,Zhiping Wang,**Ryan Urbanowicz**
USD 150,000

INVITED LECTURES AND PRESENTATIONS:

International Presentations

1. Random Artificial Incorporation or Noise in a Learning Classifier System Environment, International Workshop on Learning Classifier Systems, Genetic and Evolutionary Computing Conference (GECCO'11), Dublin, Ireland, 7/2011
2. The Role of Genetic Heterogeneity and Epistasis in Bladder Cancer Susceptibility and Outcome: A Learning Classifier System Approach, Translational Bioinformatics Conference, Jeju, South Korea, 10/2012
3. A Simple Multi-Core Parallelization Strategy for Learning Classifier System Evaluations, International Workshop on Learning Classifier Systems, Genetic and Evolutionary Computing Conference (GECCO'13), Amsterdam, The Netherlands, 7/2013
4. ExSTraCS: A Genetics-Based Supervised Machine Learning Tool for Epidemiological Data Mining, International Workshop on Learning Classifier Systems, Genetic and Evolutionary Computing Conference (GECCO'13), Amsterdam, The Netherlands, 7/2013
5. Introduction to Learning Classifier Systems, Invited Tutorial, Genetic and Evolutionary Computing Conference (GECCO'13), Amsterdam, The Netherlands, 7/2013
6. ExSTraCS: An Extended Michigan-Style Learning Classifier System for Flexible Supervised Learning Classification and Data Mining, International Workshop on Learning Classifier Systems, Genetic and Evolutionary Computing Conference (GECCO'14), Vancouver BC, Canada, 7/2014
7. The Role of Genetic Heterogeneity and Epistasis in Bladder Cancer Susceptibility and Outcome: A Learning Classifier System Approach, Genetic and Evolutionary Computing Conference (GECCO'14), Vancouver BC, Canada, 7/2014
8. Introducing Rule-Based Machine Learning: A Practical Guide, Invited Tutorial, Genetic and Evolutionary Computing Conference (GECCO'15), Madrid, Spain, 7/2015
9. Continuous Endpoint Data Mining with ExSTraCS: A Supervised Learning Classifier System, International Workshop on Evolutionary Machine Learning, Genetic and Evolutionary Computing Conference (GECCO'15), Madrid, Spain, 7/2015
10. ExSTraCS 2.0: Description and Evaluation of a Scalable Learning Classifier System, Hot Off The Press Selection, Genetic and Evolutionary Computing Conference (GECCO'15), Madrid, Spain,

7/2015

11. Introducing Rule-Based Machine Learning: Capturing Complexity, Invited Tutorial, Genetic and Evolutionary Computing Conference (GECCO'17), Berlin, Germany, 7/2017
12. Introducing Learning Classifier Systems: Rules that Capture Complexity, Invited Tutorial, Genetic and Evolutionary Computing Conference (GECCO'18), Kyoto, Japan, 7/2018
13. Attribute Tracking: Strategies towards improved detection and characterization of complex associations, Genetic and Evolutionary Computing Conference (GECCO'18), Kyoto, Japan, 7/2018
14. Solution and fitness evolution (SAFE): Coevolving solutions and their objective functions, European Conference on Evolutionary Computation (Evo*), Leipzig, Germany, 4/2019
15. Solution and fitness evolution (SAFE): A study of multiobjective problems, Computational Evolutionary Conference (CEC), Wellington, New Zealand, 6/2019
16. Learning Classifier Systems in Bio/Medical/Clinical Informatics, Victoria University of Wellington, Wellington, New Zealand, 6/2019
17. Learning Classifier Systems Researcher Panel, Victoria University of Wellington, Wellington, New Zealand, 6/2019
18. Adverse Events and Medical History: Data Harmonization for CMREF, 6th Annual Drug Discovery and Development Symposium, Pulmonary Vascular Research Institute (PVRI), Paris, France (Remote Presentation), 7/2019
19. The ExSTraCS Machine Learning Algorithm, International Workshop on Learning Classifier Systems, Genetic and Evolutionary Computing Conference (GECCO'19), Prague, Czech Republic (Remote Presentation), 7/2019
20. Coevolving Artistic Images using OMNIREP, European Conference on Evolutionary Computation (Evo*), Seville, Spain (Remote Presentation), 4/2020
21. Evolutionary Algorithms in Biomedical Data Mining: Challenges, Solutions, and Frontiers, Invited Tutorial, Genetic and Evolutionary Computing Conference (GECCO'20), Cancun, Mexico (Remote Presentation), 7/2020
22. Interpretability challenges and opportunities in rule-based machine learning, International Workshop on Learning Classifier Systems Keynote, Genetic and Evolutionary Computing Conference (GECCO'20), Cancun, Mexico (Remote Presentation), 7/2020
23. RARE: Evolutionary Feature Engineering for Rare-variant Bin Discovery, Evolutionary Algorithms for Problems with Uncertainty Workshop, Genetic and Evolutionary Computing Conference (GECCO'20), Lille, France (Remote Presentation), 7/2021
24. Interpretable Machine Learning with Rule-Based Modeling, Declarative Artificial Intelligence Conference, Leuven, Belgium (Remote Presentation), 9/2021
25. Learning Classifier Systems in an Automated Machine Learning Framework, RuleML Webinar Series, University of Economics, Prague (Remote Presentation), 9/2021
26. Methods and Applications of Rule-Based Machine Learning in Biomedical Data Mining, Uppsala University, Uppsala, Sweden (Remote Presentation), 11/2021
27. Opponent Research Field Summary, PhD Defense of Mateusz Garbulowski, Uppsala University, Uppsala, Sweden (Remote Presentation), 11/2021
28. Automated Machine Learning for Transparency in Biomedicine, ARC Summit, Sheba Medical Center, Tel Aviv, Israel, 6/2023
29. Modern Applications of Evolutionary Rule-based Machine Learning (ExSTraCS), Invited Tutorial, Genetic and Evolutionary Computing Conference (GECCO'23), Lisbon, Portugal (Remote Presentation), 7/2023
30. Scikit-FIBERS: An 'OR'-Rule Discovery Evolutionary Algorithm for Risk Stratification in Right-Censored Survival Analysis, International Workshop on Evolutionary Rule-Based Machine Learning, Genetic and Evolutionary Computation Conference (GECCO'23), Lisbon, Portugal (Remote Presentation), 7/2023
31. Evolutionary Feature-Binning with Adaptive Burden Thresholding for Biomedical Risk

Stratification, EvoStar (EvoApplications), Aberystwyth, Wales, UK (Remote Presentation), 4/2024

32. Machine Learning Tools for Biomedicine – HLA Amino Acid Mismatches in Kidney Transplantation, Virtual HLA Global Scientific Symposium, Werfen (Host: Tiffany Bratton & Sarah Bettencourt), Barcelona, Spain (Remote Presentation), 6/2024
33. Rule-based Machine Learning Expert Panel, 27th International Workshop on Learning Classifier Systems, Genetic and Evolutionary Computing Conference (GECCO'24), Melbourne, Australia, 7/2024
34. Evolutionary Machine Learning for Interpretable and eXplainable AI, Invited Tutorial, Genetic and Evolutionary Computing Conference (GECCO'24), Melbourne, Australia, 7/2024
35. Survival-LCS: A Rule-based Machine Learning Approach to Survival Analysis, Evolutionary Machine Learning Track, Genetic and Evolutionary Computing Conference (GECCO'24), Melbourne, Australia, 9/2024
36. Rule-Base Machine Learning Expert Panel, 28th International Workshop on Evolutionary Rule-based Machine Learning, Genetic and Evolutionary Computing Conference (GECCO'25), Malaga, Spain, 7/2025
37. Automated Machine Learning Tools for Data Science, Modeling, and Algorithm Benchmarking, Invited Tutorial, Genetic and Evolutionary Computing Conference (GECCO'25), Malaga, Spain, 7/2025
38. Rule-based Machine Learning: Separating Rule and Rule-set Pareto-optimization for Interpretable Noise-Agnostic Modeling, Evolutionary Machine Learning Track, Genetic and Evolutionary Computing Conference (GECCO'25), Malaga, Spain, 7/2025
39. An Extended Machine Learning Approach for Binning Donor-Recipient HLA AA-MMs to Predict Kidney Graft Failure Risk, Immunology Research Rounds, University of British Colombia (Host: Sari Nobell), Vancouver, Canada (Remote Presentation), 8/2025
40. TBD, Keynote Address, 12th International Workshop on Numerical and Evolutionary Optimization, Tijuana, Mexico, 9/2025

National Presentations

1. Mask Functions for the Symbolic Modeling of Epistasis Using Genetic Programming, Bioinformatics Track, Genetic and Evolutionary Computing Conference (GECCO'08), Atlanta, GA, 7/2008
2. The Application of Michigan-Style Learning Classifier Systems to Address Genetic Heterogeneity and Epistasis in Association Studies, Bioinformatics Track,, Genetic and Evolutionary Computing Conference (GECCO'10), Portland, OR, 7/2010
3. An Analysis Pipeline with Visualization-Guided Knowledge Discovery for Michigan Style Learning Classifier Systems: Interpreting the Black Box, International Workshop on Learning Classifier Systems, Genetic and Evolutionary Computing Conference (GECCO'12), Philadelphia, PA, 7/2012
4. Instance-Linked Attribute Tracking and Feedback for Michigan-Style Supervised Learning Classifier Systems, Genetics-Based Machine Learning Track, Genetic and Evolutionary Computing Conference (GECCO'12), Philadelphia, PA, 7/2012
5. GAMETES: Complex Genetic Model Simulation, Epistasis Discovery in Genetics and Epidemiology (EDGE), Key West, FL, 1/2013
6. Modeling Complex Disease Associations with ExSTraCS: A Study of Scalability, Epistasis Discovery in Genetics and Epidemiology (EDGE), Key West, FL, 2/2015
7. A New 'Front' in Rule-Based Machine Learning, Epistasis Discovery in Genetics and Epidemiology (EDGE), Key West, Florida, 2/2016
8. Introducing Rule-Based Machine Learning: Capturing Complexity, Invited Tutorial, Genetic and Evolutionary Computing Conference (GECCO'16), Denver, Colorado, 7/2016
9. Pareto-Inspired Multi-Objective Rule Fitness for Adaptive Rule-Based Machine Learning, International Workshop on Evolutionary Machine Learning, Genetic and Evolutionary Computing Conference (GECCO'16), Denver, Colorado, 7/2016

10. Feature Selection with REBATE, Epistasis Discovery in Genetics and Epidemiology (EDGE), Key West, Florida, 2/2017
11. Co-evolving Genetic Programming Trees and Rules in a Learning Classifier System for Problem Driven Machine Learning, Genetic Programming Theory and Practice (GPTP), Ann Arbor, MI, 5/2017
12. A Machine Learning Aperitif, NIMBioS Bioacoustic Workshop, Knoxville, TN, 6/2018
13. Machine learning strategies for detecting epistatic and heterogeneous associations in precision histocompatibility, American Society for Histocompatibility and Immunogenetics Conference (ASHI'19)), Pittsburgh, PA, 9/2019
14. Epistasis and Machine Learning, Epistasis Discovery in Genetics and Epidemiology (EDGE), Key West, FL, 2/2020
15. Machine learning strategies for detecting epistatic and heterogeneous associations in precision histocompatibility, Topics in Histocompatibility and Transplantation Audio Seminar Series, Georgetown University, Washington, DC (Remote Presentation), 9/2020
16. AutoMLPipe-BC for Biomedical Data Mining, University of Kansas Medical Center (UKMC), Kansas City, KS (Remote Presentation), 9/2021
17. Machine Learning Approach for Binning Donor-Recipient HLA Amino Acid Position Mismatches to Detect Association with Kidney Graft Failure, American Society for Histocompatibility and Immunogenetics (ASHI'21), Orlando, FL (Remote Presentation), 9/2021
18. A Rigorous Automated Machine Learning Pipeline for Biomedical Classification, Invited Research Talk, Cedars-Sinai, Los Angeles, CA (Remote Presentation), 11/2021
19. Introduction to Bootstrap and Randomization, Statistics for Genomics and Biomedical Informatics (GCB 533) Guest Lecture, University of Pennsylvania, Philadelphia, PA (Remote Presentation), 12/2021
20. Informatics Methods: Machine Learning and AI, BMIN 505: Precision Medicine and Health Policy Guest Lecture, University of Pennsylvania, Philadelphia, PA (Remote Presentation), 2/2022
21. STREAMLINE: A Simple, Transparent, End-to-End Automated Machine Learning Pipeline, Genetic Programming Theory and Practice (GPTP), Ann Arbor, MI, 6/2022
22. Best Practices in Applying Machine Learning in Human Immunogenetics and Complex Immunogenomic Data Mining, American Transplantation Conference (ATC), San Diego, CA, 6/2023
23. Data Science Innovation: Driving Alzheimer's Disease Insights, MATTER Innovation Challenge, Invited Panelist on Virtual Panel Session/Podcast as Representative of A2 Collective, Lundbeck Pharmaceutical (Host: Jeana Konstantakopoulos), Deerfield, IL, 9/2023
24. Machine Learning Approaches to Solid Organ Transplantation, American Society for Histocompatibility and Immunogenetics Conference (ASHI'23), San Antonio, TX, 10/2023
25. Automating Biomedical Data Analysis with AI and Machine Learning Adopting Best Practices, Invited Research Talk, Division of Informatics, University of Pennsylvania, Philadelphia, PA, 3/2024
26. An Extended Machine Learning Approach for Binning Donor-Recipient HLA AA-MMs to Predict Kidney Graft Failure Risk, American Society for Histocompatibility and Immunogenetics (ASHI'24) Conference, Anaheim, CA, 10/2024
27. STREAMLINE: A Transparent Automated Machine Learning Tool for Cognitive Outcome Prediction and Beyond, AI Session, Society for Brain Mapping and Therapeutics Annual NeuroTech Convention (SBMT2025), Los Angeles, CA, 3/2025
28. STREAMLINE: Automated Machine Learning for Biomedical Data Science, Invited Talk and Panel Session, Common Fund Data Ecosystem (CFDE) Meeting, Bethesda, MD (Remote Presentation), 3/2025
29. An Extended Machine Learning Approach for Binning Donor-Recipient HLA AA-MMs to Predict Kidney Graft Failure Risk, Current Topics in Histocompatability and Transplantation Lecture Series, Georgetown University, Washington D.C. (Remote Presentation), 8/2025

30. Identifying HLA Amino Acid Mismatches that Predict Kidney Graft Failure with Cross Validation using FIBERS 2.0 Machine Learning Binning, American Society for Histocompatibility and Immunogenetics (ASHI'25) Conference, Orlando, FL, 10/2025
31. Key Pitfalls in Machine Learning and Artificial Intelligence, ASHI Annual Meeting Featured Topic: AI/ML Ethical, Legal, Social Implications and Pitfalls, American Society for Histocompatibility and Immunogenetics (ASHI'25) Conference, Orlando, FL, 10/2025

Regional and Extramural Local Presentations

1. Classification and Data Mining in Genetic Epidemiology: A Learning Classifier System Approach, Bioinformatics Course Guest Lecture, University of Southern Maine, Portland, ME, 4/2013
2. An Introduction to Learning Classifier Systems, Evolutionary Computation Course Guest Lecture, University of Vermont, Burlington, VT, 10/2013
3. An Introduction to Learning Classifier Systems, Evolutionary Computation Course Guest Lecture, University of Vermont, Burlington, VT, 10/2014
4. An Introduction to Bioinformatics, Webinar for multi-site T32 on genetics of sleep and sleep disorders (John Hopkins, University of Michigan, and Stanford), University of Pennsylvania, Philadelphia, PA, 4/2017
5. Avoiding Common Machine Learning Mistakes, Data Philly, Philadelphia, PA, 11/2017
6. Introduction to Machine Learning, Machine Learning Workshop, Children's Hospital of Philadelphia (CHOP), Philadelphia, PA, 6/2019
7. Machine Learning: Building an Analysis Pipeline, Health Policy Analytics Seminar Series (MEHP), Children's Hospital of Philadelphia (CHOP), Philadelphia, PA, 1/2020
8. A Rigorous Automated Machine Learning Pipeline for Biomedical Classification, Research Informatics Seminar Series, Fox Chase Cancer Center, Philadelphia, PA (Remote Presentation), 11/2021
9. URBS-LAB: Machine Learning Tools for Biomedical Data Mining (Part 1 - FIBERS), Children's Hospital of Philadelphia FIBERS) (Host: Elizabeth Goldmuntz), Philadelphia, PA (Remote Presentation), 4/2024
10. Automated Machine Learning in Medicine, AI Campus Showcase, California State University – Dominguez Hills (Host: Mohsen Beheshti & Jack Han), Carson, CA, 5/2024
11. Automated Machine Learning in Medicine, High School Seminar Series on Research (Host: Joshua Levy), Online Event, 6/2024
12. Machine Learning and AI Education and Research in Medicine, AI Campus Showcase, California State University – Dominguez Hills (Host: Mohsen Beheshti & Jack Han), Carson, CA, 12/2024
13. Career as a Scientist/Researcher: Computational Biomedicine, Oscar De La Hoya High School, Los Angeles, CA, 3/2025
14. Artificial Intelligence (AI) - Campus at Cedars Sinai, California State University – Los Angeles (Remote Presentation), Los Angeles, CA, 4/2025

UCLA Presentations

1. Building Trust in Artificial Intelligence and Machine Learning through Transparency and Interpretability, Quality Improvement Day Invited Speaker, UCLA Department of Pathology and Laboratory Medicine, Los Angeles, CA, 2/2025

Cedars-Sinai/Institutional Presentation

1. Mask Functions for Symbolic Modeling of Epistasis, MCB Research in Progress, Dartmouth College, Hanover, NH, 5/2007
2. The Detection, Characterization, and Modeling of Genetic Heterogeneity and Epistasis, MCB Research in Progress, Dartmouth College, Hanover, NH, 4/2008
3. The Detection, Characterization, and Modeling of Genetic Heterogeneity and Epistasis, MCB Research in Progress, Dartmouth College, Hanover, NH, 2/2009
4. The Detection, Characterization, and Modeling of Genetic Heterogeneity and Epistasis: A Learning

Classifier System Approach, Pizza Talk Series, Dartmouth College, Hanover, NH, 2/2010

5. The Detection, Characterization, and Modeling of Genetic Heterogeneity and Epistasis: A Learning Classifier System Approach, MCB Research in Progress, Dartmouth College, Hanover, NH, 2/2010
6. The Detection, Characterization, and Modeling of Genetic Heterogeneity and Epistasis: A Learning Classifier System Approach, MCB Research in Progress, Dartmouth College, Hanover, NH, 11/2010
7. The Detection, Characterization, and Modeling of Genetic Heterogeneity and Epistasis: A Learning Classifier System Approach, Institute for Quantitative Biomedical Sciences Applicant, Dartmouth College, Hanover, NH, 12/2010
8. The Detection, Characterization, and Modeling of Genetic Heterogeneity and Epistasis: A Learning Classifier System Approach, MCB Research in Progress, Dartmouth College, Hanover, NH, 9/2011
9. The Detection and Characterization of Epistasis and Heterogeneity: A Learning Classifier System Approach, Thesis Defense in Molecular and Cellular Biology (MCB) Program, Dartmouth College, Hanover, NH, 2/2012
10. Tackling Complexity in Common Human Disease Research: Machine Learning Disease Risk, Citizen Science Program, Bard College, Annandale-On-Hudson, NY, 1/2013
11. ExSTraCS: The Development of a Genetics Based Supervised Machine Learning Tool for Epidemiological Data Mining, Pizza Talk Series, Dartmouth College, Hanover, NH, 2/2013
12. GAMETES: Software for Simulating Complex Epistatic Models and Heterogeneous Datasets for the Advancement of Algorithm Development, Pizza Talk Series, Dartmouth College, Hanover, NH, 12/2013
13. The Rise of Machine Learning: Advancing Epidemiological Data Mining, Prediction, and Knowledge Discovery, Invited Faculty Interview Talk, Dartmouth College, Hanover, NH, 4/2014
14. Modeling Complex Disease Associations with ExSTraCS: A Study of Scalability, Pizza Talk Series, Dartmouth College, Hanover, NH, 12/2014
15. Functional Annotation and Enrichment Analysis, Data Science (EPID600) Guest Lecture, University of Pennsylvania, Philadelphia, PA, 11/2015
16. Evolutionary Algorithms and Rule-Based Machine Learning, Data Science (EPID600) Guest Lecture, University of Pennsylvania, Philadelphia, PA, 10/2016
17. Functional Annotation and Enrichment Analysis, Data Science (EPID600) Guest Lecture, University of Pennsylvania, Philadelphia, PA, 11/2016
18. An Introduction to Data Science, Nursing Informatics 651 Guest Lecture, University of Pennsylvania, Philadelphia, PA, 4/2017
19. A New Paradigm for Data Mining in Bioinformatics: Embracing Genetic Heterogeneity, Invited Candidate Faculty Seminar, University of Pennsylvania (Host: John H. Holmes), Philadelphia, PA, 6/2017
20. Functional Annotation and Enrichment Analysis, Data Science (BMIN 503/EPID600) Guest Lecture, University of Pennsylvania, Philadelphia, PA, 11/2017
21. Evolutionary Algorithms and Rule-Based Machine Learning, Data Science (BMIN 503/EPID600) Guest Lecture, University of Pennsylvania, Philadelphia, PA, 11/2017
22. Evolutionary Algorithms and Rule-Based Machine Learning, Data Science (BMIN 503/EPID600) Guest Lecture, University of Pennsylvania, Philadelphia, PA, 10/2018
23. Functional Annotation and Enrichment Analysis, Data Science (BMIN 503/EPID600) Guest Lecture, University of Pennsylvania, Philadelphia, PA, 11/2018
24. Machine Learning for Biomedical Informatics, Recruitment Lecture for GCB, University of Pennsylvania (Host: Ben Voight), Philadelphia, PA, 1/2019
25. Solution and fitness evolution (SAFE): Coevolving solutions and their objective functions, Lunch and Learn Series, University of Pennsylvania, Philadelphia, PA, 4/2019
26. Machine learning strategies targeting personalized medicine and complexity, Informatics Day Invited Talk, University of Pennsylvania (Host: John Holmes), Philadelphia, PA, 5/2019

27. Advanced machine learning for biomedical/clinical informatics, P01 Grant Retreat, Children's Hospital of Philadelphia (CHOP), Philadelphia, PA, 6/2019
28. Exposome, K12 Bioinformatics Teaching, University of Pennsylvania, Philadelphia, PA, 7/2019
29. Gene by Environment Associations, K12 Bioinformatics Teaching, University of Pennsylvania, Philadelphia, PA, 7/2019
30. Indoor Air Pollution, K12 Bioinformatics Teaching, University of Pennsylvania, Philadelphia, PA, 7/2019
31. Outdoor Air Pollution, K12 Bioinformatics Teaching, University of Pennsylvania, Philadelphia, PA, 7/2019
32. Data Harmonization of Adverse Events and Medical History Terms in Clinical Trials Targeting Arterial Hypertension, Natural Language Processing (NLP) Seminar Series, University of Pennsylvania (Host: Graciela Gonzalez), Philadelphia, PA, 7/2019
33. Evolutionary Machine Learning, AI III: Advanced Methods and Health Applications in Machine Learning (BMIN 522) Guest Lecture, University of Pennsylvania, Philadelphia, PA, 10/2019
34. Informatics Methods: Machine Learning and AI, Precision Medicine and Health Policy (BMIN 505) Guest Lecture, University of Pennsylvania, Philadelphia, PA (Remote Presentation), 2/2020
35. Expert systems and PyKE, Lunch and Learn Series, University of Pennsylvania, Philadelphia, PA, 2/2020
36. Frontiers of Machine Learning and AI in Medicine, University of Pennsylvania School of Dentistry (Host: Hyun Koo), Philadelphia, PA, 2/2020
37. URBS Lab Research, GCB Orientation Talk, University of Pennsylvania (Remote Presentation), Philadelphia, PA, 8/2020
38. Informatics Methods: Machine Learning and AI, Precision Medicine and Health Policy (BMIN 505) Guest Lecture, University of Pennsylvania, Philadelphia, PA (Remote Presentation), 2/2021
39. Machine Learning Strategies for Mining Complex Patterns from Biomedical Data, Departmental Flash Talk, University of Pennsylvania, Philadelphia, PA (Remote Presentation), 3/2021
40. Machine Learning for Big Data in Biomedical Research, Seminar in Genomics (GCB 752) Guest Lecture, University of Pennsylvania, Philadelphia, PA (Remote Presentation), 4/2021
41. Automated Machine Learning Analysis Pipeline for Biomedical Data Mining, Mid-Atlantic Bioinformatics Conference, University of Pennsylvania, Philadelphia, PA (Remote Presentation), 11/2021
42. Computational Biomedicine: Ryan Urbanowicz, Presented an introductory research summary at BMS faculty meeting, Cedars-Sinai, Los Angeles, CA, 1/2022
43. Machine Learning and Artificial Intelligence Tools for Biomedical Data Mining, BFG/Genomics Core Seminar Series, Cedars-Sinai, Los Angeles, CA, 3/2022
44. Automated Machine Learning in Biomedicine, Course Guest Lecture, Cedars-Sinai (Host: Dennis Hazelett), Los Angeles, CA, 4/2022
45. STREAMLINE: A Simple, Transparent, End-to-End Automated Machine Learning Pipeline, University of Pennsylvania (Host: Li Shen), Philadelphia, PA (Remote Presentation), 5/2022
46. AutoML and STREAMLINE: A Simple, Transparent, End-to-End Automated Machine Learning Pipeline, Experimental Therepeutics and Cancer Biology Retreat, Cedars-Sinai, Los Angeles, CA, 6/2022
47. Fundamentals of Machine Learning and Artificial Intelligence in Medicine, Department of Surgery Grand Rounds, Cedars-Sinai, Los Angeles, CA, 1/2023
48. STREAMLINE: A Simple, Transparent, End-to-End Automated Machine Learning Pipeline, BMIN 5210 AI II: Introduction to Machine Learning and Health Language Processing Guest Lecture, University of Pennsylvania, Philadelphia, PA (Remote Presentation), 2/2023
49. Informatics Methods: Machine Learning and Artificial Intelligence, BMIN 505: Precision Medicine and Health Policy Guest Lecture, University of Pennsylvania, Philadelphia, PA (Remote Presentation), 2/2023

50. Rule-based Machine Learning Algorithms for Tackling Complexity and Interpretability in Biomedical Classification Tasks, EIS Division of Informatics Grand Rounds, Cedars-Sinai, Los Angeles, CA, 3/2023
51. STREAMLINE: An Automated Machine Learning Pipeline (v0.3.0), Science Café Seminar Series, Cedars-Sinai, Los Angeles, CA, 9/2023
52. STREAMLINE: An Automated Machine Learning Pipeline (v0.3.0), University of Pennsylvania (Host: Danielle Mowery), Philadelphia, PA, 9/2023
53. Machine Learning, AutoML and STREAMLINE: A Simple, Transparent, End-to-end AutoML Pipeline, BMIN 5210 AI II: Introduction to Machine Learning and Health Language Processing Guest Lecture, University of Pennsylvania (Host: Danielle Mowery), Philadelphia, PA (Remote Presentation), 9/2023
54. Automated Machine Learning and STREAMLINE, University of Pennsylvania (Host: Danielle Mowery), Philadelphia, PA (Remote Presentation), 2/2024
55. Reviewing Automated Machine Learning (Brainstorm and Collaboration Session), Science Café Seminar Series, Cedars-Sinai, Los Angeles, CA, 2/2024
56. Automated Machine Learning, and STREAMLINE, BMIN 5210 AI II: Introduction to Machine Learning and Health Language Processing Guest Lecture, University of Pennsylvania, Philadelphia, PA (Host: Li Shen), 3/2024
57. STREAMLINE Automated Machine Learning (v0.3.4), Moore Lab Research Talk, Cedars-Sinai, Los Angeles, CA, 3/2024
58. STREAMLINE: Automating Rigorous Machine Learning Analyses for Biomedical Data, BOGIC Seminar Series, Cedars-Sinai, Los Angeles, CA, 4/2024
59. A Discussion on Machine Learning and Artificial Intelligence in Medicine, Cedars-Sinai Academic Affairs and HR Academics Teams (Host: Kimberly Fernandez), Los Angeles, CA, 1/2025
60. HEROS: A New Paradigm of Human-Interpretable Rule-Based Machine Learning, Science Café Seminar Series,, Cedars-Sinai, Los Angeles, CA, 2/2025
61. A New Approach to Interpretable Machine Learning Modeling in Biomedicine, Biomedical and Translational Science Seminar Series (BATSSS), Cedars-Sinai, Los Angeles, CA, 4/2025

TEACHING ACTIVITIES:

	Course developed, Foundations of Artificial Intelligence (BMIN 520), Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania, Biostatistics, Epidemiology, and Informatics, Philadelphia, PA, 19104, United States
01/2020-05/2021	Course taught, Foundations of Artificial Intelligence, Raymond and Ruth Perelman School of Medicine at the University of Pennsylvania, Biostatistics, Epidemiology, and Informatics, Philadelphia, PA, 19104, United States

Non-Clinical Teaching

05/2002-07/2005	Substitute Teacher and Teaching Assistant, Sherman Elementary School (K-8), Sherman, CT
01/2004-05/2004	Teaching Assistant, Physiological Engineering (BEE 4540), Cornell University
01/2005-05/2005	Teaching Assistant, Personal Finance (HADM 3200), Cornell University
01/2007-05/2007	Center for the Advancement of Learning – Teaching Series Participant, Dartmouth College
01/2008-08/2015	Science Educator for the "Camp-in at the Museum" Program, Astronomy/Star-Lab and Chemistry Stations, Montshire Children's Museum of Science, Norwich, Vermont
08/2008-12/2008	Teaching Assistant, Undergraduate Biology (BIOL 11), Dartmouth College
12/2008-05/2009	Science Mentor for the Montshire-Rivendell-Dartmouth Howard Hughes Medical Institute Science Camp, Norwich, Vermont

12/2012-01/2013	Course Developer and Lecturer for “Citizen Science Program", Bard College, Annandale-on-Hudson, New York
09/2013-12/2013	Bioinformatics E-Learning Module Development on Topic of Hypothesis Testing, Dartmouth College
10/2013-10/2014	Guest Lecturer (1 lecture) Evolutionary Computation (Host: Margaret Eppstein), University of Vermont, Burlington, VT
11/2013-11/2013	Guest Lecturer (1 lecture), Bioinformatics (Host: Clare Congdon), University of Southern Maine
09/2015-12/2017	Teaching Assistant and Guest Lecturer (2 lectures), Data Science (EPID600), (Host: Blanca Himes), University of Pennsylvania
01/2016-08/2016	Developed Educational YouTube Video: ‘Learning Classifier Systems in a Nutshell’ https://www.youtube.com/watch?v=CRge_cZ2cJc, University of Pennsylvania
01/2016-01/2016	An Introduction to Machine Learning: Practical Guidelines and Algorithm Selection, Lunch and Learn Series, University of Pennsylvania
04/2016-04/2016	Relief-Based Algorithms, Lunch and Learn Series, University of Pennsylvania
06/2016-06/2016	Simulation Studies: Model/Dataset Generation and Study Design, Lunch and Learn Series, University of Pennsylvania
10/2016-10/2016	An Introduction to Rule-Based Machine Learning, Lunch and Learn Series, University of Pennsylvania
04/2017-05/2017	Recorded Online Lecture Modules, Nursing Informatics (Nursing651) (Host: Emilia Flores), University of Pennsylvania
04/2017-04/2017	Guest Lecturer (1 lecture), Nursing Informatics (Nursing651) (Host: Emilia Flores), University of Pennsylvania
01/2018-05/2020	Module Director, Nature-Inspired Computing in Special Topics in Biomedical and Health Informatics (BMIN 504), University of Pennsylvania
05/2018-05/2018	An Introduction to Machine Learning: Practical Guidelines and Algorithm Selection, Lunch and Learn Series, University of Pennsylvania
08/2018-08/2018	Feature Selection and ReBATE, Lunch and Learn Series, University of Pennsylvania
09/2018-12/2018	Developed and Presented Workshop “Introduction to Machine Learning”, IBI/Wharton, University of Pennsylvania
09/2018-12/2019	Guest Lecturer (2 lectures), Data Science (EPID600) (Host: Blanca Himes), University of Pennsylvania
11/2018-11/2018	Guest Lecturer (1 lecture), Exploring Data Science Methods with Health Care School of Nursing (Nursing 849) (Host: Kathryn Bowles and Michael Milo), University of Pennsylvania
01/2019-05/2019	Developed and Presented Workshop “Machine Learning: Building an Analysis Pipeline”, IBI/Wharton, University of Pennsylvania
02/2019-05/2021	Facilitator for Responsible Conduct in Research (RCR) Workshops, University of Pennsylvania
02/2019-03/2023	Guest Lecturer (1 lecture), Introduction to Biomedical and Health Informatics (BMIN 505) (Host: Mary Regina Boland), University of Pennsylvania
04/2019-08/2021	Lecturer (4 lectures), K12 Grant Program teaching Bioinformatics content to Philadelphia area high school teachers (Host: Susan Yoon), University of Pennsylvania
05/2019-05/2020	Developed curriculum, course lectures, assignments, and answer keys for new course ‘Foundations of Artificial Intelligence’ (BMIN 520), University of Pennsylvania
05/2019-05/2019	Introduction to undergraduate research, University of Pennsylvania
09/2019-09/2019	Foundations to Frontiers of Biomedical Data Mining, GCB Orientation, University of Pennsylvania

10/2019-10/2019	Guest Lecturer (1 lecture), Artificial Intelligence 2: Machine Learning (BMIN 522) (Host: Li Shen), University of Pennsylvania
10/2019-10/2019	History of Artificial Intelligence, Lunch and Learn Series, University of Pennsylvania
01/2020-05/2020	Content Mentor, Tutorials in Cell and Molecular Biology (CAMB 698) (Host: Jason Moore), University of Pennsylvania
01/2020-05/2021	Course director and primary lecturer (20 lectures) 'Foundations of Artificial Intelligence' (BMIN 520), University of Pennsylvania
09/2020-04/2021	Revised curriculum, lectures, assignments, based on first year feedback, 'Foundations of Artificial Intelligence' (BMIN 520), University of Pennsylvania
09/2020-12/2021	Guest Lecturer (1 lecture) Data Science (EPID600) (Host: Blanca Himes), University of Pennsylvania
11/2020-02/2021	Recorded Educational YouTube Video Playlist, "Fundamentals of Artificial Intelligence" (BMIN 520)(20 lectures): https://www.youtube.com/playlist?list=PLafPhSv1OSDew4qhV9YeNFwf-1eU0NHng,, University of Pennsylvania
03/2021-03/2021	Feature Selection and ReBATE, Lunch and Learn Series, University of Pennsylvania
04/2021-04/2021	Should Journals Pay Peer Reviewers?, Lunch and Learn Series, University of Pennsylvania
04/2021-04/2021	Guest Lecturer (1 lecture), Seminar in Genomics (GCB/CAMB 752) (Host: Sharon Diskin & Kara Maxwell), University of Pennsylvania
12/2021-12/2021	Guest Lecturer (1 lecture), Statistics for Genomics and Biomedical Informatics (GCB 533) (Host: Pablo Gonzalez-Camara), University of Pennsylvania
02/2022-05/2022	Developed and Presented Full-Day Workshop "What is Machine Learning? Demystifying Methods and Application", Department of Computational Biomedicine, Cedars Sinai Medical Center
02/2022-02/2022	History of Artificial Intelligence, Lunch and Learn Series, Cedars Sinai Medical Center
04/2022-04/2022	Guest Lecturer (1 lecture), Introduction to Computational Genomics (Host: Dennis Hazelett), Cedars Sinai Medical Center
06/2022-12/2022	Recorded Educational YouTube Video Playlist, "Machine Learning Essentials for Biomedical Data Science" (11 videos): https://www.youtube.com/playlist?list=PLafPhSv1OSDfEqFsBnurxzJbcwZSJA8X4, Cedars Sinai Medical Center
07/2022-09/2022	Developed and Recorded Educational YouTube Video Playlist, "Producing Educational Lecture Videos Using PowerPoint, OBS Studio, and Adobe Premiere Pro": https://www.youtube.com/playlist?list=PLafPhSv1OSDf90lgqF5qtXP18G6mMeSJH, Cedars Sinai Medical Center
10/2022-10/2022	Introduction to Rule-based Machine Learning Algorithms, CBM Science Café, Cedars Sinai Medical Center
11/2022-12/2022	Developed and Presented Revised Half-Day Workshop "What is Machine Learning? Demystifying Methods and Application", Department of Computational Biomedicine, Cedars Sinai Medical Center
12/2022-01/2023	Developed and Recorded Educational YouTube Video "A Basic Introduction to Scientific Research in a Lab": https://youtu.be/d92wI54zXl8, Cedars Sinai Medical Center
12/2022-01/2023	Developed and Recorded Educational YouTube Video "Introduction to Research in a Computational Lab": https://youtu.be/qf6gfTbubgM, Cedars Sinai Medical Center
12/2022-01/2023	Developed and Recorded Educational/Student-Research YouTube Video, "URBS-Lab Machine Learning and Artificial Intelligence Research Overview (2023)":

	https://www.youtube.com/watch?v=cRBAmZT5E4E, Cedars Sinai Medical Center
12/2022-01/2023	Developed and Recorded Educational YouTube Channel Summary, "The "Urbs-Lab" Channel: https://www.youtube.com/watch?v=onNnzi9Gc74, Cedars Sinai Medical Center
01/2023-	Team Coach for AI Campus Program, Cedars Sinai Medical Center
02/2023-02/2023	Guest Lecturer (1 lecture) AI II: Introduction to Machine Learning and Health Language Processing (BMIN5210) (Host: Danielle Mowery), University of Pennsylvania
06/2023-	Development of 'Artificial Intelligence' Course Syllabus, Curriculum, and Course Materials,, Cedars-Sinai
07/2023-09/2023	Mentor for Cedars-Sinai Accelerator (Class 9), Cedars-Sinai
08/2023-	Mentor for AI Campus Inspired Graduate Research Projects in ML/AI, California State University - Dominguez Hills
12/2023-01/2024	Developed and Recorded Educational YouTube Video Playlist "STREAMLINE Automated Machine Learning (AutoML) Tutorial" (8 videos), https://www.youtube.com/playlist?list=PLafPhSv1OSDcvu8dcbxb-LHyasQ1ZvxfJ, Cedars-Sinai
03/2024-03/2024	Guest Lecturer (1 lecture) AI II: Introduction to Machine Learning and Health Language Processing (BMIN5210) (Host: Li Shen), University of Pennsylvania
07/2024-07/2024	Recorded and Edited Educational YouTube Video "Introduction to Human Leukocytic Antigen (HLA) for Transplantation" (Developed and presented by Dr. Nicholas Brown), https://www.youtube.com/watch?v=FfvFdBWlJG0, University of Pennsylvania
02/2025-03/2025	Developed, organized, and co-presented (with Dr. Joshua Levy) 3 Workshops to coincide with start of Cedars AI Campus program. Workshops covered (1) Installation of Anaconda (2) Introduction to Python programming (3) Essentials of machine learning for data science in biomedicine, Cedars-Sinai
05/2025-05/2025	Guest Seminar, STREAMLINE Automated Machine Learning, (Host: Danielle Mowery), University of Pennsylvania
06/2025-06/2025	Developed educational resources summary on Machine Learning and Artificial Intelligence for Summer Innovation Institute, University of Pennsylvania
06/2025-07/2025	Developed, organized, and presented a 2-day AI Training Workshop for National AI Campus Historically Black Colleges and Universities. Workshop covered (1) Python Programming (Joshua Levy), (2) Machine Learning Essentials for Biomedical Data Science (Ryan Urbanowicz), (3) Principle Component Analysis & Bayesian Inference (Dennis Hazelett, and (4) Data Visualization, Bias, Fairness & Survival Analysis (Pei-Chen Peng). In collaboration with Karl Walker., Fisk University and Cedars-Sinai

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Research Papers – Peer-Reviewed (Published)

1. **Urbanowicz RJ**, White BC, Moore JH. Mask Functions for the Symbolic Modeling of Epistasis Using Genetic Programming. Genetic and Evolutionary Computation Conference : [proceedings]. Genetic and Evolutionary Computation Conference, Jul 01, 2008; 2008, : (339-346). PubMed PMID: 23019565
2. **Urbanowicz RJ**, Moore JH. The Application of Pittsburgh-Style Learning Classifier Systems to Address Genetic Heterogeneity and Epistasis in Association Studies. Jan 01, 2010; : (404-413). doi: 10.1007/978-3-642-15844-5_41
3. **Urbanowicz RJ**, Moore JH. The application of michigan-style learning classifiersystems to address genetic heterogeneity and epistasisin association studies. Proceedings of the 12th annual conference on Genetic and evolutionary computation, Jul 07, 2010; : (195-202). doi: 10.1145/1830483.1830518
4. **Urbanowicz R**, Sinnott-Armstrong N, Moore J. Random artificial incorporation of noise in a learning classifier system environment. Proceedings of the 13th annual conference companion on Genetic and evolutionary computation, Jul 12, 2011; : (369-374). doi: 10.1145/2001858.2002021
5. **Urbanowicz RJ**, Granizo-Mackenzie D, Moore JH. Using Expert Knowledge to Guide Covering and Mutation in a Michigan Style Learning Classifier System to Detect Epistasis and Heterogeneity. Jan 01, 2012; : (266-275). doi: 10.1007/978-3-642-32937-1_27
6. **Urbanowicz R**, Granizo-Mackenzie A, Moore J. Instance-linked attribute tracking and feedback for michigan-style supervised learning classifier systems. Proceedings of the 14th annual conference on Genetic and evolutionary computation, Jul 07, 2012; : (927-934). doi: 10.1145/2330163.2330291
7. **Urbanowicz RJ**, Kiralis J, Fisher JM, Moore JH. Predicting the difficulty of pure, strict, epistatic models: metrics for simulated model selection. BIODATA MINING, Sep 26, 2012; 5, (1): (1-13). doi: 10.1186/1756-0381-5-15. PubMed PMID: 23014095
8. **Urbanowicz RJ**, Kiralis J, Sinnott-Armstrong NA, Heberling T, Fisher JM, Moore JH. GAMETES: a fast, direct algorithm for generating pure, strict, epistatic models with random architectures. BIODATA MINING, Oct 01, 2012; 5, (1): (1-14). doi: 10.1186/1756-0381-5-16. PubMed PMID: 23025260
9. **Urbanowicz RJ**, Granizo-Mackenzie A, Moore JH. An Analysis Pipeline with Statistical and Visualization-Guided Knowledge Discovery for Michigan-Style Learning Classifier Systems. IEEE COMPUTATIONAL INTELLIGENCE MAGAZINE, Nov 01, 2012; 7, (4): (35-45). doi: 10.1109/MCI.2012.2215124. PubMed PMID: 25431544
10. **Urbanowicz RJ**, Andrew AS, Karagas MR, Moore JH. Role of genetic heterogeneity and epistasis in bladder cancer susceptibility and outcome: a learning classifier system approach. JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION, Jul 01, 2013; 20, (4): (603-612). doi: 10.1136/amiajnl-2012-001574. PubMed PMID: 23444013
11. Rudd J, Moore J, **Urbanowicz R**. A simple multi-core parallelization strategy for learning classifier system evaluation. Proceedings of the 15th annual conference companion on Genetic and evolutionary computation, Jul 06, 2013; : (1259-1266). doi: 10.1145/2464576.2482704
12. Tan J, Moore J, **Urbanowicz R**. Rapid Rule Compaction Strategies for Global Knowledge Discovery in a Supervised Learning Classifier System. Advances in Artificial Life, ECAL 2013, : (110-117). doi: 10.7551/978-0-262-31709-2-ch017
13. Rudd J, Moore JH, **Urbanowicz RJ**. A Multi-Core Parallelization Strategy for Statistical Significance Testing in Learning Classifier Systems. Evolutionary intelligence, Nov 01, 2013; 6, (2)doi: 10.1007/s12065-013-0092-0. PubMed PMID: 24358057
14. **Urbanowicz RJ**, Bertasius G, Moore JH. An Extended Michigan-Style Learning Classifier System for Flexible Supervised Learning, Classification, and Data Mining. Jan 01, 2014; : (211-221). doi: 10.1007/978-3-319-10762-2_21
15. **Urbanowicz RJ**, Granizo-Mackenzie AL S, Kiralis J, Moore JH. A classification and characterization of two-locus, pure, strict, epistatic models for simulation and detection. BIODATA

MINING, Jun 09, 2014; 7, (1): (1-14). doi: 10.1186/1756-0381-7-8. PubMed PMID: 25057293

16. **Urbanowicz R**, Ramanand N, Moore J. Continuous Endpoint Data Mining with ExSTraCS. Proceedings of the Companion Publication of the 2015 Annual Conference on Genetic and Evolutionary Computation, Jul 11, 2015; : (1029-1036). doi: 10.1145/2739482.2768453
17. **Urbanowicz R**, Moore J. Retooling Fitness for Noisy Problems in a Supervised Michigan-style Learning Classifier System. Proceedings of the 2015 Annual Conference on Genetic and Evolutionary Computation, Jul 11, 2015; : (591-598). doi: 10.1145/2739480.2754756
18. **Urbanowicz RJ**, Moore JH. ExSTraCS 2.0: Description and Evaluation of a Scalable Learning Classifier System. Evolutionary intelligence, Sep 01, 2015; 8, (2): (89-116). doi: 10.1007/s12065-015-0128-8. PubMed PMID: 26417393
19. **Urbanowicz RJ**, Olson RS, Moore JH. Pareto Inspired Multi-objective Rule Fitness for Noise-Adaptive Rule-Based Machine Learning. Jan 01, 2016; : (514-524). doi: 10.1007/978-3-319-45823-6_48
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24. **Urbanowicz RJ**, Lo C, Holmes JH, Moore JH. Attribute tracking: strategies towards improved detection and characterization of complex associations. Proceedings of the Genetic and Evolutionary Computation Conference, Jul 02, 2018; : (553-560). doi: 10.1145/3205455.3205618
25. **Urbanowicz RJ**, Olson RS, Schmit P, Meeker M, Moore JH. Benchmarking relief-based feature selection methods for bioinformatics data mining. JOURNAL OF BIOMEDICAL INFORMATICS, Sep 01, 2018; 85, (1): (168-188). doi: 10.1016/j.jbi.2018.07.015. PubMed PMID: 30030120
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35. Kennedy EE, Davoudi A, Hwang S, Freda PJ, **Urbanowicz R**, Bowles KH, Mowery DL. Identifying Barriers to Post-Acute Care Referral and Characterizing Negative Patient Preferences Among Hospitalized Older Adults Using Natural Language Processing. AMIA ... Annual Symposium proceedings. AMIA Symposium, Jan 01, 2022; 2022, : (606-615). PubMed PMID: 37128417
36. Woodward AA, Taylor DM, Goldmuntz E, Mitchell LE, Agopian AJ, Moore JH, **Urbanowicz RJ**. Gene-Interaction-Sensitive enrichment analysis in congenital heart disease. BIODATA MINING, Feb 12, 2022; 15, (1): (1-16). doi: 10.1186/s13040-022-00287-w. PubMed PMID: 35151364
37. **Urbanowicz RJ**, Holmes JH, Appleby D, Narasimhan V, Durborow S, Al-Naamani N, Fernando M, Kawut SM. A Semi-Automated Term Harmonization Pipeline Applied to Pulmonary Arterial Hypertension Clinical Trials. METHODS OF INFORMATION IN MEDICINE, May 01, 2022; 61, (01/02): (3-10). doi: 10.1055/s-0041-1739361. PubMed PMID: 34820791
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Machine learning algorithm. JOURNAL OF BIOMEDICAL INFORMATICS, Jun 01, 2023; 142, doi: 10.1016/j.jbi.2023.104374. PubMed PMID: 37120046

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Non-Peer Reviewed Papers

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