Adler Perotte, MD, MA

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Research Overview

I develop statistical machine learning methods for (i) biomedical discovery and (ii) optimizing health decisions by individuals and their care providers. To accomplish these goals, I focus on four tasks: non-invasive measurement, phenotyping, prediction, and causal inference. These tasks are interdependent and each inform decision making at different levels of granularity. My work on these tasks spans several disease categories including cardiovascular, renal, and neurologic conditions and several technical categories including probabilistic inference, graphical models, deep generative models, survival analysis, and information theory.

Education

M.A. Biomedical Informatics, Columbia University, 2012.

M.D. Columbia University, College of Physician and Surgeons, 2008.

A.B. Psychology, Neuroscience Certificate, *Magna Cum Laude*, Princeton University, 2004.
Thesis: A Solution to Catastrophic Interference: A Neural Network Model of Consolidation and Cortical Memory Protection During Sleep.

Positions

Assistant Professor, Department of Biomedical Informatics, Columbia University 2016–present.

Associate Research Scientist, Department of Biomedical Informatics, Columbia University 2013–2016.

Assistant Director for Technology, Center for Advanced Technology, Columbia University 2012–2016.

Adjunct Associate Research Scientist, Department of Biomedical Informatics, Columbia University 2012–2103.

National Library of Medicine Postdoctoral Fellow (George Hripcsak, Frank Wood), Columbia University 2009–2012.

Reseach Specialist, Computational Memory Laboratory (Kenneth Norman, David Blei), Princeton University 2008–2009.

Medical Student Intern, Science and Technology Ventures, Columbia University, 2007.

Short-term Research Fellow, Center for Theoretical Neuroscience (Kenneth Miller), Columbia University 2005.

Research Assistant, Mechanical and Aerospace Engineering (Wale Soboyejo), Princeton University 2001.

Research Assistant, Computational Memory Laboratory (Kenneth Norman), Princeton University 2000.

Professional Organizations and Societies

Member, American Medical Informatics Association 2009–2013, 2015–present

Founder and Faculty Advisor, Columbia University Health Tech Assembly (www.healthtechassembly.com), 2012–present

Coordinating Center Collaborator, Observational Health Data Sciences and Informatics (OHDSI), 2014–present

Collaborator, New York City Clinical Data Research Network (NYC-CDRN), 2014–2018

Member, Student National Medical Association 2004–2008

Honors

American Medical Informatics Association Distinguished Paper Reviewer, 2013

Malcolm X Scholar (merit-based tuition scholarship), Columbia University, College of Physicians and Surgeons, 2004–2008

J.F. Bohmfalk Scholar (merit-based tuition scholarship), Columbia University, College of Physicians and Surgeons, 2004–2008

Committees

Biomedical Informatics Training Committee at Columbia University, 2018 – present

Healthier Columbia Network Wellness Advisory Committee, 2017 – present

Columbia University Data Science Institute Health Analytics Committee, 2017 – present

Search Committee for Mental Health Data Science at Columbia University, 2018 – 2019

College of Physicians and Surgeons Biomedical Informatics Thread Steering Committee at Columbia University, 2014–2016

University Research Misconduct Standing Committee at Columbia University, 2007–2008

Search Committee for the Dean of the Faculty of Medicine and Executive Vice President of Health and Biomedical Sciences at Columbia University, 2005–2006

Fellowships and Grant Support

Co-Investigator and Site Prinicpal Investigator - National Heart, Lung, and Blood Institute, R01 - "Deep Probabilistic Predictive Models for Stroke and Coronary Heart Disease." 2019 – present.

Investigator - Columbia University President's Global Innovation Fund - "Planning Collaborations on Novel Methods and Technologies to Diagnose, Monitor and Treat Diabetic Foot Syndrome," 2018.

Principal Investigator - Defense Advanced Research Projects Agency, BTO - "Combining clinical data and transdermal analysis of whole blood to create a next generation wearable device," 2016 – 2018

Assistant Director for Technology - New York State Foundation for Science, Technology and Innovation (NYSTAR) C070123 - "Center for Advanced Information Management," 2012–2016

Investigator - Astrazeneca, ASTRZEN CU15-1758 - "New p-value calibration based on the findings from the distributions," 2015–2015

Investigator - Astrazeneca, ASTRZEN CU15-1759 - "Semantic Browser," 2015–2015

Site Principal Investigator - National Institutes of Health, 1 R41 HL126568-01A1 - "Vulnerable Plaque Optical Analyzer," 2014–2015

Investigator - Patient Centered Outcomes Research Institute - "New York City Clinical Data Research Network," 2014–2015

Investigator - National Science Foundation, IIS-1344668 - "SCH INT: Large-Scale Probabilistic Phenotyping Applied to Patient Record Summarization," 2014–2014

Investigator - Telemedicine & Advanced Technology Research Center - "Pattern Representation and Evaluation of Data through Integration, Correlation, and Transformation," 2012-2013

Postdoctoral Fellow - National Library of Medicine, T15 LM007079-14 "Training in Biomedical Informatics at Columbia University," 2009–2012

Teaching

Course Director, BINF G4002: Computational Methods, Biomedical Informatics, Columbia University, Spring 2019 –

Guest Lecturer, BINF G4001: Introduction to Computer Applications in Health Care & Biomedicine, Introduction to Machine Learning, Biomedical Informatics, Columbia University, Fall 2016 – Present

Course Director, BINF G4099: Research Seminar in Biomedical Informatics, Biomedical Informatics, Columbia University, Fall 2016 – 2020

Guest Lecturer, CSCIGA 2565: Machine Learning, Cautionary Tales in Machine Learning, Computer Science, New York University, Fall 2019

Course Director, BINF G8001: Readings in Biomedical Informatics - Probabilistic Graphical Models, Biomedical Informatics, Columbia University, Spring 2016

Course Developer & Director, BINF G4000: Acculturation to Programming and Statistics, Biomedical Informatics, Columbia University, Fall 2015

Guest Lecturer, Privacy and Security in Biomedical Informatics, Columbia University College of Physicians and Surgeons, 2015 – 2016

Guest Lecturer, Decision Analysis in Biomedical Informatics, Columbia University College of Physicians and Surgeons, 2014–2015

Guest Lecturer, Principal Components Analysis in Computational Methods, Columbia University College of Physicians and Surgeons, 2012–2014

Teaching Assistant, BINF G4002: Computational Methods, Biomedical Informatics, Columbia University, 2011

Postdoctoral Curriculum Developer, Cornell/Columbia Health Informatics Certificate Program, 2010

Teaching Assistant, BINF G4003: Symbolic Methods, Biomedical Informatics, Columbia University, 2010

Teacher, Student Success Network, Columbia University College of Physicians and Surgeons, 2005–2006

Teaching Assistant, Organic Chemistry II, Chemistry, Princeton University, 2003

Teaching Assistant, Organic Chemistry I, Chemistry, Princeton University, 2003

Editorial Board and Scientific Programming Committee Memberships

Member, Journal of American Medical Informatics Editorial Board, 2018 – present

Program Committee Member, Machine Learning for Healthcare (MLHC), 2020

Program Committee Member, Machine Learning for Healthcare (MLHC), 2019

Program Committee Member, International Conference on Machine Learning (ICML), 2017

Scientific Programming Committee Member, American Medical Informatics Association, 2016

Other Professional Activities

CUIMC Leadership and Management Course for Diverse Faculty, 2019

Organizer, Focus Group on "Artificial intelligence for Health" – World Health Organization & Internaional Telecommunications Union, Columbia University, 2018

Mentor, DREAMChasers High School Mentorship Program, 2018

Reviewer, PLoS One, 2018 – present

Reviewer, Canadian Institutes of Health Research – Personalized Health Catalyst Grants, Government of Canada, 2017

Reviewer, Research Initiatives in Science & Engineering (RISE) Competition, Columbia University, 2017

Lead Organizer, HealthHacks NYC, 2017

Reviewer, Machine Learning for Health Care (MLHC), 2017–present

Reviewer, Neural Information Processing Systems (NIPS), 2017–present

Member, Biomedical Informatics Data Mining Group, Columbia University, 2009–present

Reviewer, Journal of American Medical Informatics Association, 2012–present

Reviewer, Journal of Biomedical Informatics, 2015–present

Reviewer, Journal of Biomedical Semantics, 2016–present

Reviewer, PeerJ, 2016–present

Reviewer, Statistics in Medicine, 2015–present

Reviewer, American Medical Informatics Association Annual Symposium, 2012 – present

Reviewer, BMC Medical Informatics and Decision Making, 2014 – 2015

Member, ICML: ML for Clinical Data Anlaysis Workshop Program Committee, 2012

Organizer, Health 2.0/Columbia Code-a-thon, 2012

InSITE Fellow and Consultant for deTect Biosciences LLC, imup4, and BestVendor, 2010–2012

Founder and Faculty Advisor, Columbia University Latin Dance Club 2009–present

Founder, Biomedical Informatics Machine Learning Reading Group, 2009–2011

Invited Talks

Columbia University, Pfizer/ASA/Columbia University Symposium on Risks and Opportunities of AI in Clinical Drug Development, Finding Natural Experiments in Observational Data, upcoming on May 18, 2020

Columbia University, Neuroepidemiology Seminar, Biomedical Informatics in Clinical Research, October 16, 2019

Columbia University, DBMI Departmental Reteat, A Data-Driven Informatics Stack for Biomedical Measurement and Inference, September 4, 2019

Massachussets General Hospital, Center for Systems Biology, A Data-Driven Biomedical Stack for Biomedical Measurement and Inference, August 13, 2019

New York State Task Force on Life and the Law, The Intersection of AI and Medicine, May 9, 2019

Columbia University, Data Science Institute Health Analytics Workship, Deep Learning for Prediction with EHR Data, February 1, 2019

Machine Learning for Healthcare, Panel: Guidelines for the Safe & Meaningful Deployment of ML in Clinical Care, August 18, 2018

Columbia University, Digital Health Grand Rounds, Artificial Intelligence and Evidence-Based Medicine, December 20, 2017

Columbia University, Biostatistics Seminar, Bayesian Models of Electronic Health Records for Summarization and Prediction, September 28, 2017

Mount Sinai School of Medicine, Pharmacological Sciences Spring Seminar Series, Survival Analysis with EHR Data, Feb 23, 2017

Columbia University, Irving Institute, Modern Scientific Entrepreneurship, Nov 22, 2016

OHDSI, OHDSI Symposium, Community Panel: Where are we on the journey right now? How did we get here?. Sept 23, 2016

Columbia University, Data Science Institute, Predicting Kidney Disease Progression with Large-Scale Patient Data, Apr 6, 2016

JAMIA, Journal Club, Data-driven risk prediction for chronic kidney disease, Oct 15, 2015

New York University, Sontag Lab, Interpretable Predictive Models for Disease Progression and Pharmacovigilance, Nov 12, 2014

Doctoral Dissertation Committees

Tian Kang - Columbia University, Department of Biomedical Informatics - 2019–present

Oliver Bear Don't Walk IV - Columbia University, Department of Biomedical Informatics - 2019–present

Jenna Kefeli - Columbia University, Department of Systems Biology - 2018–present

Michelle Chau - Columbia University, Department of Biomedical Informatics - 2017–present

Peter Bullen - Columbia University, Department of Applied Physics and Applied Math - 2017–2019

Phyllis Thangaraj - Columbia University, Department of Biomedical Informatics - 2017–2020

Joseph Romano - Columbia University, Department of Biomedical Informatics - 2017–2019

Janet Woollen - Columbia University, Department of Biomedical Informatics - 2016–2017

Research advisees

Shreyas Bhave, PhD Student, 2019 – present

Victor Rodriguez, PhD Student, *NIH F31 Fellowship Awardee* 2018 – present

Katherine Schlosser, MD, Masters Student, 2018 – present

Amelia Averitt, PhD Student, 2016 – present

Aurnov Chattopadhyay, Undergraduate Student, 2017 – present

Francesco Grechi, Undergraduate Student, 2017 – present

Jason Ping, High School Student, 2018 – present

Joongheum Park, Medicine Resident Research Intern, 2016 – 2019

Liana Tascau, Masters Student, 2016 – 2019

Natnicha Vanitchanant, Masters Student, 2017 – 2018

Guillaume David, Postdoctoral Research Scientist, 2016 – 2018

Anando Sen, Postdoctoral Research Scientist, 2017

Tian Kang, PhD Student Rotation, Spring 2017

Elliot Mitchell, PhD Student Rotation, Spring 2017

Aras Curukcu, High School Intern, Summer 2016

Publications

Journal Articles

Averitt AJ, Slovis BH, Tariq AA, Vawdrey DK, **Perotte AJ**. Characterizing non-heroin opioid overdoses using electronic health records. JAMIA Open. 2019 Nov 26.

Polubriaginof FC, Ryan P, Salmasian H, Shapiro AW, **Perotte A**, Safford MM, Hripcsak G, Smith S, Tatonetti NP, Vawdrey DK. Challenges with quality of race and ethnicity data in observational databases. Journal of the American Medical Informatics Association. 2019 Aug;26(8-9):730-6.

Pavinkurve NP, Natarajan K, **Perotte AJ**. Deep Vision: Learning to Identify Renal Disease With Neural Networks. Kidney International Reports. 2019 Jul;4(7):914.

Chan RB, **Perotte AJ**, Zhou B, Liong C, Shorr EJ, Marder KS, Kang UJ, Waters CH, Levy OA, Xu Y, Shim HB. Elevated GM3 plasma concentration in idiopathic Parkinson's disease: A lipidomic analysis. *PloS one*. 2017 Feb 17;12(2):e0172348.

Liu CH, Boydston-White S, Weisberg A, Wang W, Sordillo LA, **Perotte A**, Tomaselli VP, Sordillo PP, Pei Z, Shi L, Alfano RR. Vulnerable atherosclerotic plaque detection by resonance Raman spectroscopy. *Journal of biomedical optics*. 2016 Dec 1;21(12):127006-.

Hripcsak G, Ryan P, Duke J, Shah NH, Park RW, Huser V, Suchard MA, Schuemie M, DeFalco F, **Perotte A**, Banda J, Reich C, Schilling L, Matheny M, Meeker D, Pratt N, Madigan D. Addressing Clinical Questions at Scale: OHDSI Assessment of Treatment Pathways. Proc Natl Acad Sci U S A. 2016 Jul 5;113(27):7329-36. doi: 10.1073/pnas.1510502113.

Cole-Lewis H, **Perotte A**, Galica K, Dreyer L, Griffith C, Schwarz M, Yun C, Patrick H, Coa K, Augustson E. Social Network Behavior and Engagement Within a Smoking Cessation Facebook Page. J Med Internet Res. 2016 Aug 2;18(8):e205. doi: 10.2196/jmir.5574.

Pivovarov R, **Perotte A**, Grave E, Angiolillo J, Wiggins C, Elhadad N. Learning Probabilistic Phenotypes from Heterogeneous EHR Data. *J Biomed Inform.*, 2015 Oct 14. pii: S1532-0464(15)00223-3. doi: 10.1016/j.jbi.2015.10.001.

Hripcsak G, Albers DJ, **Perotte A**. Parameterizing time in electronic health record studies. *J Am Med Inform Assoc.* 2015 Feb 26. pii: ocu051. doi: 10.1093/jamia/ocu051. **Editor's Choice**

Perotte A, Ranganath R, Hirsch JS, Blei D, Elhadad N. Risk prediction for chronic kidney disease progression using heterogeneous electronic health record data and time series analysis. *J Am Med Inform Assoc.* 2015 Apr 20. pii: ocv024. doi: 10.1093/jamia/ocv024. **AMIA Journal Club Invited Talk**

Hernández D, Carrión D, **Perotte A**, Fullilove R. Public health entrepreneurs: training the next generation of public health innovators. *Public Health Reports* 2014 Nov-Dec;129(6):477-81.

Albers DJ, Elhadad N, Tabak E, **Perotte A**, Hripcsak G. Dynamical phenotyping: using temporal analysis of clinically collected physiologic data to stratify populations. *PLoS One* 2014 Jun 16;9(6):e96443. doi: 10.1371/journal.pone.0096443. 2014.

Perotte A, Pivovarov R, Natarajan K, Weiskopf N, Wood F, Elhadad N. Diagnosis code assignment: models and evaluation metrics. *J Am Med Inform Assoc.*, Dec 2013. doi: 10.1136/amiajnl-2013-002159

Overby C, Pathak J, Gottesman O, Haerian K, **Perotte A**, Murphy S, Bruce K, Johnson S, Talwalker J, Shen Y, Ellis S, Kullo I, Chute C, Friedman C, Bottinger E, Hripcsak G, Weng C. A Collaborative Approach to Developing an Electronic Health Record Phenotyping Algorithm for Drug-Induced Liver Injury. *J Am Med Inform Assoc.*, Dec 2013;20(e2):e243-52. doi:10.1136/amiajnl-2013-001930

Perotte A and Hripcsak G. Temporal Properties of Diagnosis Code Time Series in Aggregate. *IEEE Transactions of Information Technology in Biomedicine*, March 2013:17(2):477-483.

Claassen J, **Perotte A**, Albers D, Kleinberg S, Schmidt JM, Tu B, Badjatia N, Lantigua H, Hirsch LJ, Mayer SA, Connoly ES, Hripcsak G. Nonconvulsive seizures after subarachnoid hemorrhage: multimodality detection and outcomes. *Annals of Neurology*, 2013 Jul;74(1):53-64. doi: 10.1002/ana.23859.

Hripcsak G, Albers D, **Perotte A**. Exploiting Time in Electronic Health Record Correlations. *J Am Med Inform Assoc.* 2011 Dec;18 Suppl 1:i109–15.

Norman K, Newman E, **Perotte A**. Methods for reducing interference in the Complementary Learning Systems Model: Oscillating Inhibitation and Autonomous Memory Rehearsal. *Neural Networks* 2005:18(9):1212–28. **Special Issue: Computational Theories of the Functions of the Hippocampus**

Paper Proceedings

Rodriguez VA, **Perotte A**. Phenotype Inference with Semi-Supervised Mixed Membership Models. In Machine Learning for Healthcare Conference 2019 Oct 28 (pp. 304-324).

Miscouridou X, **Perotte A**, Elhadad N, Ranganath R. Deep Survival Analysis: Nonparametrics and Missingness. In Machine Learning for Healthcare Conference 2018, Proceedings of Machine Learning Research 85: 1-12, 2018.

Ranganath R, **Perotte A**, Elhadad N, Blei D. Deep Survival Analysis. In Machine Learning for Healthcare Conference 2016 Dec 10 (pp. 101-114).

Ranganath R, **Perotte A**, Elhadad N, Blei D. The Survival Filter: Joint Survival Analysis with a Latent Time Series. *Uncertainty in Artificial Intelligence*, Amsterdam, Netherlands, 2015.

Overby C, Weng C, Haerian K, **Perotte A**, Hripcsak G. Evaluation Considerations for EHR-based Phenotyping Algorithms: A Case Study for Drug Induced Liver Injury, *AMIA Summit on Translational Bioinformatics*, 2013.

Hripcsak G, Albers D, **Perotte A**. Interpreting Lagged Linear Correlation and Using Range to Prioritize. *AMIA Summit on Translational Bioinformatics*, 2012.

Perotte A, Bartlett N, Elhadad N, Wood F. Hierarchically Supervised Latent Dirichlet Allocation. *Advances in Neural Information Processing Systems 24 (NIPS 2011)* 2609–2617.

Hripcsak G, Albers D, **Perotte A**. Using lagged linear correlation to find relationships between laboratory values and clinician concepts. *AMIA Summit on Translational Bioinformatics*, 2011.

Socher R, Gershman S, **Perotte A**, Sederberg P, Norman K, Blei D. A Bayesian Analysis of Dynamics in Free Recall. *Advances in Neural Information Processing Systems 22 (NIPS 2009)* 1714–1722.

Working Papers

Averitt A, Vanitchanant N, Ranganath R, **Perotte A**. The Counterfactual χ-GAN. *under review*

Averitt A, Weng C, Ryan P, **Perotte A**. Translating evidence into practice - Eligibility criteria fail to eliminate clinically significant differences between real-world and study populations. *under review*

Poterucha TJ*, Elias P*, Bokhari S, Einstein AJ, DeLuca A, Saith S, Griffin JM, **Perotte A**, Maurer MS. Diagnosing transthyretin cardiac amyloidosis by technetium-99m pyrophosphate: A test in evolution. *under review*

Bullen P, Kymissis I, **Perotte A**. Stimulated Raman with Broadband LED Stokes Source for Analysis of Glucose. *in preparation*

Bullen P, David G, Patel P, Velazquez A, Claassen J, Kymissis I, **Perotte A**. Methods for Portable In Vivo Blood Spectroscopic Analysis with Pressure Induced Time-Dependent Component. *in preparation*

Ranganath R, **Perotte A**. Multiple Causal Inference with Latent Confounding. *in preparation*

Averitt A, Weng C, Ryan P, **Perotte A**. A New Framework of External Validity. *in preparation*

Averitt A, **Perotte A**. Noisy-OR risk allocation. *in preparation*

Posters and Presentations

Poterucha TJ, Elias P, Bokhari S, Einstein AJ, DeLuca A, Saith S, Griffin JM, Chernovolenko M, **Perotte A**, Maurer MS. Predictive Factors for Non-invasive Detection of Transthyretin Cardiac Amyloidosis in 756 Patients Undergoing Technetium-99m Pyrophosphate Scanning. *International Society of Amyloisosis*, 2020.

Elias P, Poterucha TJ, Maurer MS, Bokhari S, Rodriguez V, Bhave Shreyas, Averitt A, **Perotte A**. Total electrical activity across an electrocardiogram and left ventricular dimensions from an echocardiogram accurately predict technetium-99m pyrophosphate (PYP) scanning results. *International Society of Amyloisosis*, 2020.

Averitt A, Vanitchanant N, Ranganath R, **Perotte A**. The Counterfactual χ-GAN: a Weighting Method for Causal Inference. *13th Annual NYAS Machine Learning Symposium*, 2019.

Ahn S, Mei J, Park J, Levesky J, **Perotte A**. Artificial Intelligence-driven Automatic Generation of Chest X-ray Report for Evaluation of Central Line Placement. *ARRS Annual Meeting*, 2019.

Rodriguez V, **Perotte A**. Phenotype Inference with Semi-Supervised Mixed Membership Models. In Machine Learning for Health Workshop at NeurIPS 2018.

Park J, Shi H, **Perotte A**. Development of a Machine Learning Model for Prediction of Successful Extubation and User-Friendly Implementation for Real-World Use. *AMIA Annual Symposium*, 2018.

Averitt A, **Perotte A**. Noisy-Or Risk Allocation Model for Causal Inference. *AMIA Annual Symposium*, 2018.

Rodriguez V, **Perotte A**, Elhadad N. Automatic inference of phenotypic features for mortality prediction. *AMIA Informatics Summit*, 2018.

Averitt AJ, **Perotte A**. Clinical Trial Eligibility Criteria Fail to Meet Burden of Generalizability. *AMIA Annual Symposium*, 2017.

Park J, Tascau L, **Perotte A**. Lessons Learned from the Conversion of MIMIC3 to the OHDSI Common Data Model. *AMIA Annual Symposium*, 2017.

Ranganath R, **Perotte A**, Elhadad N, Blei D. Deep Survival Analysis. *New York Academy of Sciences Machine Learning Symposium*, 2017.

Alcalay R, Chan R, **Perotte A**, Zhou B, Liong C, Shorr E, Marder K, Kang U, Waters C, Levy O, Xu Y. Elevated GM3 Plasma Concentration in ParkinsonâĂŹs Disease: a Lipidomics Analysis (P1. 006). *Neurology*, 2017 Apr 18;88(16 Supplement):P1-006.

Ranganath R, **Perotte A**, Elhadad N, Blei D. Deep Survival Analysis. *OHDSI Symposium*, 2016.

Averitt AJ, **Perotte A**. Standardization of FDA Adverse Event Reporting System to the OHDSI Common Data Model. *AMIA Annual Symposium*, 2016.

Albers D, **Perotte A**, Hripcsak G. Approaches for using temporal and other filters for next generation phenotype discovery. *AMIA Annual Symposium*, 2016.

Perotte A, Elhadad N. A probabilistic model for learning relationships between diagnosis codes and clinical free text. *AMIA Annual Symposium*, 2016.

Perotte A. Scientific Entrepreneurship. Multidisciplinary Patient Oriented Research (MPOR) Colloquium, Irving Institute for Clinical and Translational Research, November 22, 2016.

Perotte A. El futuro de la innovacion en Chile y los equipos interdisciplinarios. Columbia University Global Center. University of Chile. Santiago, Chile. October 27, 2016.

Perotte A. Predicting Kidney Disease Progression with Large-Scale Patient Data. Data Science Day. Columbia University Data Science Institute. New York. 2016.

Ranganath R, **Perotte A**, Elhadad N, Blei D. The Survival Filter. NSF Workshop: Data Science, Learning, and Applications to Biomedical & Health Sciences. New York. 2016.

Perotte A, Ranganath R, Hirsch JS, Blei D, Elhadad N. Combining traditional statistical methods and machine learning methods for risk prediction in chronic kidney disease progression using electronic health record data. AMIA Journal Club, 2015.

Cole-Lewis H, **Perotte A**, Galica K, Dreyer L, Schwarz M, Augustson E, Patrick H. Using Computational Methods To Assess Interpersonal Interactions In A Smoking Cessation Facebook Community. *In annals Of Behavioral Medicine* 2015 Apr 1 (Vol. 49, pp. S212-S212). 233 Spring St, New York, Ny 10013 USA: Springer.

Schmidt M, Claassen J, **Perotte A**, Albers D, Hripcsak G. Understanding and Visualizing Heterogeneous High Frequency Data in the Neurological ICU. Inaugural Symposium: From Big Data to Big Ideas. Institute for Data Science and Engineering, Columbia University, 2013.

Claassen J, **Perotte A**, Albers D, Schmidt J, Tu B, Badjatia N, Lee K, Mayer S, Connolly E, Hirsch L, Hripcsak G. Electrographic seizures after subarachnoid hemorrhage lead to derangement of brain homeostasis in humans. *Critical Care 2011*, 15(Suppl 1):P331 (doi: 10.1186/cc9751)

Maurer MS, Albers D, **Perotte A**, Chen C, Hripcsak G. Hemoconcentration is Associated with Lower Mortality Post Hospitalization for Heart Failure. *American College of Cardiology Annual Scientific Session & Expo*, 2012.

Perotte A, Bartlett N, Elhadad N, Wood F. Hierarchically Supervised Latent Dirichlet Allocation. *New York Academy of Sciences Sixth Annual Machine Learning Symposium*, 2011.

Perotte A, Hripcsak G. Using Density Estimates to Aggregate Patients and Summarize Disease Evolution. *AMIA Summit on Translational Bioinformatics*, 2011.

Perotte A. Characterization of Disease Time Course using ICD9 codes. *National Library of Medicine Informatics Training Conference*, 2011.

Perotte A, Hripcsak G. Using the Entropy of ICD9 Documentation Across Patients to Characterize Disease Chronicity. *AMIA Annual Symposium Proceedings*. 2010.

Perotte A. Characterization of Disease Time Course Using ICD9 Codes. National Library of Medicine Training Conference, 2011.

Book Chapters

Wood F, **Perotte A**. Mixed Membership Classification for Documents with Hierarchically Structured Labels. *Handbook on Mixed Membership Models*. Ed. Airoldi EM, Blei D, Erosheva EA, and Fienberg E. Chapman and Hall/CRC 2014. 305âĂŞ323. Print.

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