Kyle H. Ambert — Curriculum Vitae

Contact Information

Department of Medical Informatics & Clinical Epidemiology
Oregon Health & Science University
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Research Interests

Neuroinformatics, machine learning, text-mining, data analysis, and visualization.

Special Skills & Techniques

Data Analysis: Skilled in experimental design and customized regression and modeling strategies for high-dimensional data, hierarchical/mixed-effects analyses, dimensionality reduction techniques, and the analysis of categorical data.
Highly proficient in data analysis and customized data visualization using R, as well as in the use of S+, SPSS, Prism, and MATLAB, as well as in the communication of statistical results to professional and lay-audiences alike.
Data Visualization: Highly knowledgable in designing and implementing customized data visualizations that are informed by statistical findings. Skilled developing specialized visualizations for high-dimensional data using R's grid graphics language. Has taught courses dealing with infographic best-practices.
Programming Languages: Proficient in Python, R, S+, MATLAB, SQL, Javascript, Java, mongoDB, LaTeX, HTML, CSS, and BASH. Knowledgable in Ruby, Rails, and Weka.

Education

PhD Candidate: Oregon Health & Science University, Portland, Oregon
Fellow, National Library of Medicine
Department of Medical Informatics & Clinical Epidemiology
Expected graduation date: June, 2012
Thesis title: *Approaches to Optimizing Neuroscience Community Database Curation with Text-Mining*
Advisor: Aaron M. Cohen
Dissertation Committee: Dr. Aaron M. Cohen, MD (*chair*); Dr. Brian Roark, PhD; Dr. Eilis Boudreau, MD, PhD; Dr. Gully Burns, PhD; Dr. Kemal Sonmez, PhD.

Oregon Health & Science University, Portland, Oregon
Fellow, National Institute of Drug Abuse
Department of Behavioral Neuroscience
September, 2005 - December, 2007 (moved to Dept. Medical Informatics & Clinical Epidemiology)

Wheaton College, Wheaton, Illinois
B.A., Psychology, May, 2003

Oregon State University Honors College, Corvallis, Oregon
September, 1999 - June, 2000 (transferred to Wheaton College)

Grants, Honors, & Awards

Oregon Health & Science University, Dept. Medical Informatics & Clinical Epidemiology

- Recipient of a National Library of Medicine Research Fellowship (July, 2009-July, 2011)
- Student poster presentation award, Oregon Health & Science University Student Research Forum (2009)
- Designed a course that was adopted into the continuing curriculum for Oregon Health & Science University School of Medicine (2010)
- Student Blogger for Oregon Health & Science University School of Medicine (2010-*present*
- Student Representative to the Department of Biomedical Informatics Curriculum Committee (2010-2011)
- National Library of Medicine Fellows' Meeting Coordinator (2011)

· Oregon Health & Science University Department of Biomedical Informatics presenter to National Library of Medicine Annual Fellows' Meeting (2011)

Oregon Health & Science University, Dept. Behavioral Neuroscience

· Ashworth Student Merit Award recipient (2007)
· Research Society on Alcoholism Travel Award recipient (2007)

Wheaton College & Oregon State University Honors College

· Imagia Fellowship recipient (1999-2003)
· Elk's Foundation Fellowship recipient (1999-2003)
· Oregon State University Presidential Scholar (1999-2000)
· Sponsored Muscian, Oregon State University & Line 6 Amplifiers (1999-2000)

Publications

Cohen AM, Ambert KH, McDonagh M. "Studying the Potential Impact of Automated Document Classification on the Systematic Review Update Scheduling Process" *BMC Medical Informatics and Decision Making, 2011 In press.*

Ambert KH, Cohen AM. "*k*-Information Gain Scaled Nearest Neighbors: A Novel Approach to Classifying Protein-Protein Interactions in Free-Text." *IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2011.*

Cohen AM, Ambert KH, McDonagh M. "A Prospective Evaluation of an Automated Classification System to Support Evidence-based Medicine and Systematic Review." *Proceedings of AMIA, 2010 In press.*

Jimison HB, McKanna J, Ambert KH, Hagler S, Hatt WJ, Pavel M. "Models of Cognitive Performance Based on Home Monitoring Data." *Proceedings of EMBC, 2010, In press.*

Ambert KH, Cohen AM. "A System for Classifying Disease Co-morbidity Status from Medical Discharge Summaries Using Automated Hotspot and Negated Concept Detection." *J Am Med Inform Assoc,* 2009.

Cohen AM, Ambert KH, McDonagh MS. "Cross-topic Learning for Work Prioritization in Systematic Review Creation and Update." *J Am Med Inform Assoc,* 2009.

Ambert KH, Cohen AM. "Error-Correcting Output Codes with Automatic Hot-Spot Filtering for Identifying Disease Comborbidity Status." *In: i2b2 2008 NLP Obesity Challenge Task; 2008; Washington, D.C.*

Talks

"Text-Mining Tools for Optimizing Community Database Curation Workflows in Neuroscience: *Constructing a Useful Data Set.*" (OHSU DMICE NLM Fellows' Meeting; Portland, OR., 2011)

"A System for Identifying Neuroanatomical Connection Information in Free Text." (OHSU Student Research Forum; Portland, OR., 2010)

"Databases in Pharmacogenomics." (OHSU Pharmacogenomics Course; Portland, OR., 2010)

"A Cognitive Model of the Trail Making Test." (Society for Mathematical Psychology Annual Meeting; Portland, OR., 2010)

"Text-Mining & Neuroinformatics." (OHSU DMICE Summer Lectures; Portland, OR., 2010)

"Error-Correcting Output Codes with Automatic Hot-Spot Filtering for Identifying Disease Comorbidity Status." (i2b2 NLP Obesity Challenge Task; Washington D.C., 2008)

"Characterizing risk-sensitive choice in the adjusting amount procedure." (NIDA/NIAAA Training Workshop presentation; Portland, OR., 2006)

"Differential effects of Raclopride on the discounting of delayed, probabilistic, and effort-contingent rewards." (NIDA/NIAAA Training Workshop presentation; Forest Grove, Or., 2007)

Poster Presentations

Ambert KH "Text-mining Tools for Optimizing Community Database Curation Workflows in Neuroscience." *National Library of Medicine Annual Fellows' Meeting,* 2011.

Ambert KH "Text-mining Tools for Optimizing Community Database Curation Workflows in Neuroscience." *Oregon Health & Science University Student Research Forum,* 2011.

Ambert KH, & Cohen AM, "A Support Vector Machine Classification System for detecting Protein-Protein Interaction Information in Free Text." *Oregon Health & Science University Student Research Forum,* 2009.

Ambert KH, Beckley EH, Reeves JM, Mitchell SH, "Raclopride Dose-dependently Decreases Delayed, but not Probabilistic or Effort-contingent Rewards." *Society for Neuroscience annual meeting, Atlanta, GA,* 2007.

Ambert KH, & Mitchell SH, "The Effects of Acute Ethanol Exposure on Preference for an Uncertain Appetitive Reward." *Research Society on Alcoholism annual meeting,* 2007.

Ambert KH, & Mitchell SH, "Characterizing risk-sensitive choice in the adjusting amount procedure." *Oregon Health & Science University Student Research Forum,* 2007.

Ambert KH, Savally JM, Mitchell SH, "Differential Effects of Raclopride on the Discounting of Delayed, Probabilistic, and Effort-contingent Food Rewards." *Oregon Chapter of the Society for Neuroscience annual meeting,* 2006.

Ambert KH, & Struthers WM, "Rearing in Enriched Environments Reduces Novelty-Shuttling Induced FOS Expression in the Cingulate Cortex and Striatum." *Society for Neuroscience 33rd Annual Meeting, New Orleans, LA,* 2003.

Employment Experience

Research Analyst, Oregon Health & Science University
(July, 2011-present*)*
- Developed machine learning-based techniques for optimizing data curation for Evidence-based Medicine.
- Used custom-built software for performing document classification, creating graphics, and performing statistical analyses.

Principle Analyst, U+0048 Analytics
(July, 2011-present*)*
- Created customized analysis software for scientific data management, analysis, and visualization.
- Consulted with Research Scientists, to develop novel approaches to multivariate and time series data analysis.
- Developed and implemented a constructivist approach to creating programming curricula.

Pre-Doctoral Fellow, National Library of Medicine
(July, 2009-July, 2011)
- Designed, conducted, analyzed, and presented research related to Neuroinformatics, Machine Learning, and Text Mining.
- Advisor: Dr. Aaron M. Cohen, M.D., M.S.

Co-founder and Informatician, Benisciences, LLC
(July, 2009)
- Designed and implemented custom data management and analysis solutions.

Graduate Research Assisitant, Department of Medical Informatics & Clinical Epidemiology
(OHSU; March, 2008-July, 2009)

· Conducted, and assisted with, the research of Dr. Aaron M. Cohen, M.D., M.S. in the areas of machine learning, text mining, and classification.

Scholarly & Professional Memberships

American Medical Informatics Association (2008-*present*)
American Association for the Advancement of Science (2006-2008)
Society for Neuroscience (2006-2008)

References

Aaron M. Cohen, M.D., M.S.
Associate Professor, Department of Medical Informatics & Clinical Epidemiology
Oregon Health & Science University
Portland, OR
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Shannon McWeeney, Ph.D.
Associate Professor, Biostatistics and Bioinformatics
Director, Bioinformatics and Computational Biology Track
Director, OCTRI BMIP Translational Bioinformatics
Director, OHSU Cancer Institute Informatics
Oregon Health & Science University
Portland, OR
email: mcweeney@ohsu.edu