

Nathanael Fillmore

DFCI Address

Department of Biostatistics
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Dana-Farber Cancer Institute
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VA Address

MAVERIC
VA Boston Healthcare System
580 Harrison Ave.
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Research Positions

Research Fellow/Associated Health Postdoctoral Fellow. Department of Biostatistics and Computational Biology and Department of Medical Oncology, Dana-Farber Cancer Institute; Department of Biostatistics, Harvard T.H. Chan School of Public Health; MAVERIC, VA Boston Healthcare System. October 2016–present. Advisors: Nikhil Munshi, Giovanni Parmigiani, Andrew Zimolzak, Mary Brophy, Louis Fiore

My primary project is to use clinical data from the VA's electronic health records system and genomic data from the VA's Million Veterans Program to study aspects of multiple myeloma.

Research associate. Biostatistics and Medical Informatics, University of Wisconsin, Madison. January 2016–September 2016. Advisor: Colin Dewey.

I wrapped up two projects from my Ph.D., one on methods to detect differential alternative splicing based on RNA-Seq data, and another where we study the progression of protein translation in *Xenopus*.

Education

University of Wisconsin, Madison, Ph.D., Computer Sciences, 2008–2015.

American Institute of Indian Studies, Pune, India, Advanced Language Program in Sanskrit, June–November, 2005.

Carleton College, B.A., Philosophy and Classical Languages, *magna cum laude*, 2001–2005.

Honors, Awards, and Fellowships

VA Healthcare System Big Data-Scientist Training Enhancement Program (BD-STEP) Fellowship, 2016–2017.

Computation and Informatics in Biology and Medicine Traineeship (full support), 2011–2014.

Student travel scholarship, International Conference on Machine Learning, 2010.

Full tuition waiver, American Institute of Indian Studies, 2005.

Phi Beta Kappa, 2005.

White Bear Lake Area Educational Foundation Brosious Scholarship, 2001–2005.

Byrd Scholarship, 2001–2005.

American Legion Scholarship, 2001.

Kopp Family Foundation Scholarship, 2001.

Citizen's Scholarship Foundation of America, 2001.

Peer-Reviewed Publications

Bo Li*, Nathanael Fillmore*, Yongsheng Bai, Mike Collins, James A. Thomson, Ron Stewart, and Colin N. Dewey. Evaluation of de novo transcriptome assemblies from RNA-Seq data. *Genome Biology* 2014, 15:553.

* = equal contributions

Michael H. Coen, M. Hidayath Ansari, and Nathanael Fillmore. Learning from spatial overlap. *Twenty-Fifth Conference on Artificial Intelligence (AAAI)*, 2011.

Michael H. Coen, M. Hidayath Ansari, and Nathanael Fillmore. Comparing clusterings in space. *International Conference on Machine learning (ICML)*, 2010.

Andrew B. Goldberg, Nathanael Fillmore, David Andrzejewski, Zhiting Xu, Bryan Gibson, and Xiaojin Zhu. May all your wishes come true: A study of wishes and how to recognize them. In *North American Chapter of the Association for Computational Linguistics – Human Language Technologies (NAACL-HLT)*, 2009.

Technical Reports

Nathanael Fillmore, Andrew B. Goldberg, and Xiaojin Zhu. Document recovery from bag-of-word indices. University of Wisconsin, Computer Sciences, Technical Report TR1645, August 2008.

Selected Presentations

“Evaluation of *de novo* transcriptome assemblies from RNA-Seq data.” Presentation to the Fifth RECOMB Satellite Workshop on Massively Parallel Sequencing (RECOMB-SEQ 2015), Warsaw, Poland. April 11, 2015.

“Evaluation of *de novo* transcriptome assemblies from RNA-Seq data.” Presentation to the Computation and Informatics in Biology and Medicine seminar, University of Wisconsin, Madison. March 11, 2014.

“Evaluation of *de novo* transcriptome assemblies from RNA-Seq data.” Presentation to the Computation and Informatics in Biology and Medicine seminar, University of Wisconsin, Madison. February 12, 2013.

“Progression and gene expression in cervical cancer.” Presentation to the Computation and Informatics in Biology and Medicine seminar, University of Wisconsin, Madison. October 25, 2011.

“Towards a comprehensive corpus of eighteenth-century English print.” Presentation to the Mellon working group on Visualizing English Print from c. 1470 to 1800, University of Wisconsin, Madison. October 1, 2011.

“Incorporating spatial similarity into ensemble clustering.” Presentation at MultiClustKDD: 1st International Workshop on Discovering, Summarizing and Using Multiple Clusterings, part of the 16th ACM SIGKDD Conference on Knowledge Discovery and Data Mining, Washington, DC, 2010. (With M. Hidayath Ansari (speaker) and Michael H. Coen.)

Selected Posters

“Detection of differential alternative splicing with a tree-structured model.” Poster at the Center for Predictive Computational Phenotyping (CPCP) Second Annual Retreat. June 30, 2016 (to come).

“Evaluation of *de novo* transcriptome assemblies from RNA-Seq data.” Poster at the 19th Annual International Conference on Research in Computational Molecular Biology (RECCOMB 2015), Warsaw, Poland. April 12, 2015.

“Probability models for RNA assembly and analysis.” Poster at the Computation and Informatics in Biology and Medicine annual fall retreat, University of Wisconsin, Madison. October 11, 2013.

“Evaluation of *de novo* transcriptome assemblies from RNA-Seq data.” Poster at the National Library of Medicine Informatics Training Conference, Salt Lake City, Utah. June 19, 2013.

“Probability models for RNA assembly and analysis.” Poster at the Computation and Informatics in Biology and Medicine annual fall retreat, University of Wisconsin, Madison. October 12, 2012.

“RSEM-EVAL: A probabilistic transcriptome assembly evaluator.” Poster at the International Conference on Intelligent Systems for Molecular Biology (ISMB), Long Beach, CA. July 15-17, 2012.

“Progression and gene expression in cervical cancer.” Poster at the annual program year workshop on Large Data Sets in Medical Informatics, Institute for Mathematics and its Applications, University of Minnesota, November 15, 2011.

“Progression and gene expression in cervical cancer.” Poster at the Computation and Informatics in Biology and Medicine annual fall retreat, University of Wisconsin, Madison. October 7, 2011.

“Measuring similarity non-metrically.” Poster at the ICML 2010 Workshop on Learning in Non-(geo)metric Spaces, part of the International Conference on Machine Learning, Haifa, Israel, 2010.

Academic Service

Local site coordinator (with Xiaojin Zhu and Benjamin Snyder), North American Computational Linguistics Olympiad (NACLO), 2011.

Local site coordinator (with Xiaojin Zhu), North American Computational Linguistics Olympiad (NACLO), 2010.

Local site coordinator (with Xiaojin Zhu), North American Computational Linguistics Olympiad (NACLO), 2009.

Teaching Assistantships

CS 513, Numerical Linear Algebra, Spring 2011.

CS 412, Intro. to Numerical Methods, Spring 2011.

CS 760, Machine Learning, Fall 2010.

CS 412, Intro. to Numerical Methods, Fall 2010.

CS 540, Intro. to Artificial Intelligence, Spring 2010.

CS 412, Intro. to Numerical Methods, Spring 2010.

CS 838, Computational Cognitive Science, Fall 2009.

CS 412, Intro. to Numerical Methods, Fall 2009.

CS 540, Intro. to Artificial Intelligence, Spring 2009.

CS 310, Problem Solving with Computers, Fall 2008.

Latin 101, Beginning Latin, Winter 2005 (Carleton College).

Non-Academic Employment

BigHat Inc., Madison, WI, July 2006–May 2008. Technical lead, with a substantial equity stake.

Web Services Group, Carleton College. September 2002–June 2005 (part-time), and as an independent contractor in 2005–2006. Programmer.