

Curriculum Vitæ

Katherine M. Kinnaird

Brown University

Division of Applied Mathematics

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EDUCATION

Dartmouth College

Ph.D., Mathematics June 2014

Thesis Title: *Aligned Hierarchies for Sequential Data*, Advisor: Scott D. Pauls

A.M., Mathematics June 2010

Wellesley College

A.B., Mathematics with Departmental Honors May 2008

EMPLOYMENT

Brown University - Data Sciences Postdoctoral Fellow July 2016 - Present

Affiliated to the Division of Applied Mathematics

Macalester College - Visiting Assistant Professor September 2014 - June 2016

HONORS AND AWARDS

Awards

Dartmouth College Graduate Teaching Award June 2013

Dartmouth College Graduate Community Service Award May 2011

Fellowship and Grant Support

NSF GK-12 Fellowship as part of "Fostering Scientific Creativity by Building Connections and Improving Science Communication Skills" Project July 2013 - June 2014

Dartmouth College Graduate Fellowship September 2008 - June 2013

Travel Awards and Grants

AMS-Simons Travel Grant July 2017 - June 2019

AMS Graduate Student Travel Grant January 2014

The Neukom Institute (of Dartmouth College) Travel Grant January 2013, December 2013

2013 Broadening Participation in Data Mining Travel Scholarship August 2013

PUBLICATIONS

Peer-Reviewed Publications -

1. *Examining Musical Meaning In Similarity Thresholds.* - Appeared at the 18th International Society for Music Information Retrieval Conference, October 2017
2. *Aligned Hierarchies: A Multi-Scale Structure-Based Representation for Music-Based Data Streams.* - Appeared at the 17th International Society for Music Information Retrieval Conference, August 2016

In Preparation -

1. *What's SuPP? Applying MaPP to the Cover Song Task* with E. Bugbee*, C. Savard*, and M. McGuirl
2. *S_NL Diagrams applied to Song Comparison Tasks* with E. Bugbee*, C. Savard*, and M. McGuirl
3. *Influence in TED Talks* with J. Laudun
4. *Aligned sub-Hierarchies for Sequential Data*
5. *Aligned Hierarchies Toolbox: MATLAB implementation for creating aligned hierarchies and aligned sub-hierarchies for sequential data*

The * denotes undergraduate co-authors.

Code Release -

Thesis Code with License - <https://github.com/kmkinnaid/ThesisCode/> October 2014

TEACHING EXPERIENCE

Brown University - Data Sciences Postdoctoral Fellow, Div. of Applied Math.

What's the big deal with Data Science - First Year Seminar (Fall 2016, Fall 2017)

Essential Statistics (Spring 2017, Spring 2018)

Institute for Mathematics and Its Applications - Math-to-Industry Bootcamp

Python Instructor (June 2016)

Macalester College - Visiting Assistant Professor, Dept. of Math, Statistics, & CS

Core Concepts in Computer Science (Fall 2014, Spring 2015, Fall 2015, Spring 2016)

Introduction to Statistical Modeling (Spring 2015, Fall 2015, Spring 2016)

TEACHING EXPERIENCE (cont)**Dartmouth College -**

NSF GK-12 Fellow collaborating at Kimball Union Academy (July 2013 - June 2014)

Instructor

Calculus of Functions of One and Several Variables (Winter 2012)

Calculus with Algebra (Fall 2010)

Ethics Trainer (with Prof. Marcia J. Groszek)

Professional Ethics Program for First-Year Graduate Students (Fall 2011)

Teaching Assistant

Topics in Applied Mathematics (Winter 2013), *Differential Equations* (Spring 2010),

Calculus of Functions of One and Several Variables (Spring 2009, Fall 2009),

Introduction to Calculus (Fall 2008)

SELECTED PRESENTATIONS**Invited Conference & Workshop Talks -**

Machine Learning for Music Discovery Workshop August 2017

At International Conference on Machine Learning (ICML) 2017

Seminar on music knowledge extraction using machine learning December 2016

Hosted at Pompeu Fabra University, co-located with 13th European Workshop
on Reinforcement Learning

Invited Seminar Talks -

Dynamics Seminar - Boston University September 2016

Pattern Theory Seminar - Brown University September 2016

Data Science Seminar - Institute for Mathematics and Its Applications April 2016

MSCS Department Colloquium - St. Olaf College April 2016

Conversations About Our Scholarly Lives - CST, Macalester College January 2016

MCS Seminar - Gustavus Adolphus College March 2015

MSCS Department Seminar - Macalester College March 2015

MSCS Department Research Seminar - St. Olaf College November 2014

Mathematics Department Faculty Lunchtime Seminar - Wellesley College April 2013

Conference Talks -

Joint Mathematics Meetings -

AMS-MAA Special Session on Innovative Ideas in Enhancing Success
in Mathematics Classes 2016

AMS Session on Probability Theory, Stochastic Processes, and Statistics 2016

MAA General Contributed Paper Session on Modeling or Applications 2015

AMS Session on Statistical Modeling, Big Data, and Computing 2014

AMS Session on Applied Mathematics and Modeling 2013

Northeast Music Informatics Special Interest Group - Boston, MA January 2013

SELECTED PRESENTATIONS (cont)

Poster Presentations -

- Poster Session at 18th ISMIR Conference* October 2017
Poster Session at 17th ISMIR Conference August 2016
Poster Session at Workshop for Women In Machine Learning December 2013-2015
Project NExT/Young Mathematician's Network Poster Session at JMM January 2013

PROFESSIONAL ACTIVITIES

The Data Science TRAIIn Lab - Founder and PI December 2014 - May 2016

Conferences -

International Society for Music Information Retrieval Conference (2016, 2017) • *Joint Mathematics Meetings* (2013-2016) • *MAA MathFest* (2014-2016) • *Neural Information Processing Systems* (2012, 2013, 2017) • *ACM SIGKDD Conference on Knowledge Discovery and Data Mining* (2013) • *Broadening Participation in Data Mining* (2013) • *Northeast Music Informatics Special Interest Group* (2012, 2013) • *International Conference on Machine Learning* (2012, 2017)

Workshops -

Workshop for Women In Machine Learning (2012-2017) • *Seminar on Music Knowledge Extraction Using Machine Learning* (2016) • *Culture Analytics Long Program* at Institute for Pure and Applied Mathematics (2016) • *Music Hack Day NYC* (2013) • *HAMR-In-The-Woods* (2013) • *Broadening Participation in Data Mining* (2013) • *Music Hack Day at MIT* (2012) • *International Workshop on Music and Machine Learning* (2012) • *Women and Mathematics* at Institute for Advanced Study (2011) • *CRSI Workshop* (2009)

Professional Development Activities -

Project NExT Fellow - *Mathematical Association of America* August 2015 - August 2016
 Digital Liberal Arts, Faculty Learning Community - *Macalester* Fall 2015
 New Faculty Seminar - *Macalester College* September 2014 - May 2015
 Future Faculty Teaching Seminar - *Dartmouth College* Summer 2013
 Active Learning Institute (ALI) - *Dartmouth College* August 31-September 1, 2011
 Teaching Seminar - *Department of Mathematics, Dartmouth College* Summer 2010

SERVICE and MENTORING ACTIVITIES

Service to Research Community -

Workshop for Women In Machine Learning -	
<i>Executive Board President</i>	January 2016 - Present
<i>Executive Board Member</i>	January 2014 - Present
<i>Member of Organizing Team</i>	2013 Workshop
<i>Reviewer</i> - Neural Information Processing Systems	2015, 2016
<i>Co-Organizer</i> - MAA North Central Section Spring Meeting	2016
<i>Panelist</i> - National Science Foundation	2016
<i>Co-Organizer</i> - The Early (Post-PhD) Years: An Interactive Survival Guide	JMM 2016
<i>Reviewer</i> - International Conference on Machine Learning	2015
<i>Organizer</i> - Graduate Student Seminar, Math Dept., Dartmouth	June 2011- June 2012

STEM Outreach - Dartmouth College

<i>Activity Leader</i> - Graduate Women in Science and Engineering Science Day	April 2013
<i>Member of Organizing Team</i> - Sonia Kovalevsky Math Day	October 2012
<i>Workshop Leader</i> - Sonia Kovalevsky Math Day	November 2011
<i>Activity Leader</i> - Johns Hopkins Center for Talented Youth Odyssey Series	May 2010

Community Service - Dartmouth College

<i>Graduate Student Liaison</i> - V-Day Campaign	Winter 2009 - Winter 2014
<i>Activities Co-Chair</i> - Executive Board, Graduate Student Council	May 2009 - May 2011
<i>Activities Committee</i> - Graduate Student Council	October 2008 - May 2011

Mentoring -

<i>Presentation Advisor for Four Senior Capstone Projects</i> - Macalester College	Spring 2016
<i>Content Advisor for Capstone Project</i> - Margaret Giesel, Macalester College	Spring 2015
<i>Mentor</i> - Women In Machine Learning Workshop	2013, 2014
<i>Graduate Advisor</i> - Office of Residential Life, Dartmouth College	Fall 2009 - Spring 2012

REFERENCES

Available upon request.