Alexis Cook

Contact Information

Brown University
Division of Applied Mathematics
182 George Street
Providence, RI 02912

Email: alexis_cook@brown.edu
Phone Number: 571-216-4129
Nationality: USA
Website: https://alexisbcook.github.io

Research Interests

Bayesian Nonparametrics, Machine Learning, Computer Vision, Applied Probability

Objective

I am currently seeking a machine learning internship for Summer 2017.

Education

Brown University, Providence, RI, USA **August 2014 – Present**

- Ph.D., Applied Mathematics
- Relevant Coursework: Levy Processes, Probability Theory, Measure Theory, Functional Analysis

- Master of Science, Computer Science **August 2014 – May 2016**
- Relevant Coursework: Probabilistic Graphical Models, Computer Vision, Reinforcement Learning

University of Michigan-Ann Arbor, Ann Arbor, MI, USA **August 2012 – August 2014**

- Master of Science, Applied and Interdisciplinary Mathematics
- Relevant Coursework: Machine Learning, Numerical Linear Algebra, Complex Analysis

Duke University, Durham, North Carolina **August 2006 – May 2010**

- Bachelor of Science, Mathematics; Second Major: Russian Language and Culture

Research Projects

Brown University, Providence, RI, USA **August 2015 – January 2016**
Variational Inference for Poisson-Gamma Process Mixture Models

Brown University, Providence, RI, USA **November 2015 – December 2015**
Nonparametric Approaches to Clustering Sign-Language Video Sequences

Brown University, Providence, RI, USA **August 2015 – December 2015**
The Infinite Partially Observable Markov Decision Process

Kobe University, Kobe, Japan **July 2015 – August 2015**
Computer Simulations on Rocket-Plasma Interactions

Brown University, Providence, RI, USA **August 2015 – December 2015**
Connectome Inference

MIT Lincoln Laboratory, Lexington, MA, USA **June 2014 – August 2014**
Detecting Subgraphs Beneath the Noise Floor with Sparse PCA

University of Michigan-Ann Arbor, Ann Arbor, MI, USA **May 2012 – May 2014**
Multiscale Model of Anti-Bcl-2 and Anti-Mitotic Drugs

Duke University, Durham, NC, USA **May 2008 – December 2008**
Eigenvalues of Tridiagonal Matrices: Application to Neuronal Transport

Publications

"*An Integrated Cellular and Sub-cellular Model of Cancer Chemotherapy and Therapies that Target Cell Survival*", Mathematical Biosciences and Engineering, Volume 12, Issue 6, December 2015, Pages 1219-1235.

Conference Talks

Rackham Summer Institute Symposium, University of Michigan **August 2012**
Mathematical modeling of combination chemotherapy

Mellon Mays Undergraduate Conference, Duke University **December 2008**
Eigenvalues of tridiagonal matrices

Teaching Experience

Division of Applied Mathematics, Brown University
Teaching Assistant for Recent Applications of Probability and Statistics **Spring 2016**

Department of Mathematics, University of Michigan-Ann Arbor
- Gave lectures three days per week for students of varying backgrounds and needs
- Graded assignments and exams for thirty calculus students

Instructor for Calculus I **Fall 2013**
Instructor for Calculus I **Winter 2013**
Instructor for Calculus I **Fall 2012**

Honors and Awards

2013–2016	National Science Foundation Graduate Research Fellowship
2012–2014	Marjorie Lee Browne Scholarship
2008	Goldman Sachs Fellowship
2008	American Economic Association Minority Scholarship
2008	Mellon Mays Fellowship
2006–2010	Angier B. Duke Scholarship

Programming Languages

Python, HTML, CSS, Matlab

Professional Associations

2014-Present	Association for Women in Mathematics
	Presenter, Brown Chapter Graduate Panel (October 2015)
2012-Present	Society for Industrial and Applied Mathematics
	Vice President, University of Michigan Student Chapter (2012-2013)
2012-Present	American Mathematical Society

Outreach and Service

2014-Present	Member, Rose Whelan Society
2014-Present	Member, Math CoOp
2014-Present	Mentor, ALANA