
EDUCATION

- **University of Wisconsin – Madison** Madison, WI
Ph.D. in Computer Sciences Expected 2019
 - **Advisor:** Colin Dewey
 - **Thesis:** Computational methods for transcriptome-based cellular phenotyping
- **University of Wisconsin – Madison** Madison, WI
M.S. in Computer Sciences Dec. 2015
- **University of Notre Dame** South Bend, IN
B.S. in Computer Science; Magna Cum Laude May 2013

EXPERIENCE

- **University of Wisconsin - Madison** Madison, WI
Research Assistant under Prof. Colin Dewey Aug. 2014 - Present
 - Researching and developing novel computational methods for extracting knowledge from large, public repositories of biological sequencing data
 - Mentor undergraduate students working in the lab
- **Amazon** Seattle, WA
Software Development Engineering Intern Summer 2014
 - Designed, implemented, and launched auto-complete search-suggestions for the Amazon Local website's search bar. Search suggestions are served as the user is typing a query
 - Designed, implemented, and launched an offline system that uses previous customer search data to pre-compute an index of search suggestions
- **University of Wisconsin - Madison** Madison, WI
Teaching Assistant (Lecturer) Aug. 2013 - May 2014
 - Lecturer to ~30 students in CS 302 - Introduction to Programming
 - Created assignments, quizzes, and lesson plans for my class
 - Designed two programming projects that all ~700 students enrolled in CS 302 were required to complete
- **Amazon** New York, NY
Software Development Engineering Intern Summer 2013
 - Improved Amazon Posts - a tool that allows brands to create short social messages that appear on various feeds across Amazon websites
 - Revamped the Amazon Posts management UI to include analytics that inform brands on how successfully each post has reached customers and promoted purchases
 - Improved the customer facing look and feel of the Amazon Posts feeds
- **Space and Naval Warfare Systems Command (SPAWAR)** San Diego, CA
Research Intern Summer 2012
 - Researched applications of machine learning for the task of determining political and group affiliation of anonymous internet authors
 - Built a prototype application for tagging public web content that may be of interest to intelligence analysts

AWARDS AND FELLOWSHIPS

- **NIH/BD2K Young Investigator Travel Scholarship**, International Conference on Intelligent Systems for Molecular Biology (ISMB), Chicago, IL, July 6-10, 2018
- **Best Plenary Talk**, National Library of Medicine Informatics Training Conference, San Diego, CA, June 6, 2017
- Awarded three year, NLM funded traineeship through the **Computation and Informatics in Biology and Medicine** training program between Feb. 2015 - Feb. 2018
- **University Housing Honored Instructor Award**. University of Wisconsin–Madison, Fall 2013
- **Tau Beta Pi** Membership. University of Notre Dame, Fall 2011
- **Upsilon Pi Epsilon** Membership. University of Notre Dame, Fall 2011

PEER-REVIEWED PUBLICATIONS

- **Bernstein, M.N.**, Doan, A., Dewey, C.N. (2017). MetaSRA: normalized human sample-specific metadata for the Sequence Read Archive. *Bioinformatics*, 33(18), 2914–2923.

INVITED TALKS

- **International Conference on Intelligent Systems for Molecular Biology (ISMB)** Chicago, IL
MetaSRA: normalized human sample-specific metadata for the Sequence Read Archive July 7, 2018
- **Center for Predictive Computational Phenotyping Annual Retreat** Madison, WI
Cellular phenotyping with mass, heterogeneous transcriptomic data May 31, 2018
- **National Library of Medicine Informatics Training Conference** San Diego, CA
MetaSRA: normalized human sample-specific metadata for the Sequence Read Archive June 6, 2017
- **Center for Predictive Computational Phenotyping Annual Retreat** Madison, WI
MetaSRA: normalized human sample-specific metadata for the Sequence Read Archive June 1, 2017

POSTER PRESENTATIONS

- **RNA-Seq Summit** San Francisco, CA
MetaSRA: normalized human sample-specific metadata for the Sequence Read Archive April 26-27, 2017
- **National Library of Medicine Informatics Training Conference** Columbus, OH
Standardizing sample-specific metadata in the Sequence Read Archive June 27-28, 2016

SERVICE

- **Integrated Biological Sciences Summer Research Program** Madison, WI
Mentor Summer 2015, 2016
 - Co-mentored undergraduate students' summer research projects with Prof. Colin Dewey
- **Computer Sciences Graduate Student Welcome Weekend** Madison, WI
Committee member, Committee chair Spring 2014, 2015, 2016
 - Planned the department's prospective student visit weekend
 - Chaired the committee in Spring 2015
- **Scratch Computer Programming Club at Stephen's Point Elementary** Madison, WI
Club Leader Spring 2015
 - Led an after school computer science club for 4th and 5th grade students

TECHNICAL SKILLS

- **Software Development:** Python (strong), Java (strong), C/C++ (familiar), JavaScript (familiar), HTML, CSS, SQL, MongoDB, Git, Numpy, Matplotlib, Scikit Learn
- **Computer science & Machine Learning:** Probabilistic Modeling, Dimensionality Reduction, Named Entity Recognition, Knowledge Representation
- **Bioinformatics Topics:** RNA-seq, Transcriptome Quantification, Biomedical Text Mining