BIANCA DUMITRASCU

Quantitative and Computational Biology, Princeton University
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EDUCATION

2015–present	Quantitative and Computational Biology, Princeton University **Ph.D. Candidate (Advisor: Prof. Barbara E Engelhardt)**
2013–2015	Princeton University **M.A. in Quantitative and Computational Biology**
2009–2013	Massachusetts Institute of Technology **B.S. in Mathematics**

PUBLICATIONS

1. **PG-TS: Improved Thompson Sampling for Logistic Contextual Bandits**
   B. Dumitrascu, K. Feng, and B. E Engelhardt
   To appear in the 32nd Conference on Neural Information Processing Systems (NeurIPS 2018).
2. **Statistical tests for detecting variance effects in quantitative trait studies**
   B. Dumitrascu, G. Darnell, J. Ayroles, and B. E Engelhardt
   Bioinformatics, 2018.
3. **BIISQ: Bayesian nonparametric discovery of Isoforms and Individual Specific Quantification from RNA-seq data**
   D. Aguiar, L. F. Cheng, **B. Dumitrascu**, F. Mordelet, A. Pai, and B. E Engelhardt
   Nature Communications, 9(1), 2018.

PREPRINTS

1. **GT-TS: Experimental design for maximizing cell type discovery in single-cell data**
   B. Dumitrascu, K. Feng, and B. E Engelhardt
   bioarXiv preprint bioarXiv:386540.
2. **Sparse Multi-Output Gaussian Processes for Medical Time Series Prediction**
   L. F. Cheng, G. Darnell, **B. Dumitrascu**, C. Chivers, M. E Draugelis, K. Li, and B. E Engelhardt
   arXiv preprint arXiv:1703.09112.

WORKSHOP PAPERS

1. **End-to-end training of deep probabilistic CCA for joint modeling of paired biomedical observations**
   G. Gundersen, **B. Dumitrascu**, J.T Ash, and B. E Engelhardt
   NeurIPS Workshop on Bayesian Deep Learning, 2018.

In Preparation

1. **netNMF: an integrative network approach to clustering scRNA-seq data**
   R. Elyanow, **B Dumitrascu**, B. E Engelhardt, and B. Raphael
   [in submission]
2. **A Bayesian nonparametric factor analysis model for gene co-expression under structured and unstructured noise**
   B. Dumitrascu, R. de Vito, C. Brown, and B. E Engelhardt
   [in preparation]
3. **Identifying causal relationships among genes driving response to exposure with transcriptional time series data**
   B. Dumitrascu, J. Lu, B. Jo, I. C McDowell, T. Reddy, and B. E Engelhardt
   [in preparation]

Extended Abstracts and Invited Talks

1. **Bandits and Experimental Design**
   Models, Inference, and Algorithms, Broad Institute of MIT and Harvard, 2018
   Invited Talk.
2. **Mixed Bivariate Logistic Copulas for Depression Risk Factor Identification**
   B. Dumitrascu, R. de Vito, C. Brown, and B. E Engelhardt
   International Society for Bayesian Analysis, Edinburgh, 2018.
   Poster Presentation.
3. **A Bayesian nonparametric factor analysis model for gene co-expression under structured and unstructured noise**
   B. Dumitrascu, R. de Vito, C. Brown, and B. E Engelhardt
   Women in Machine Learning Workshop, Barcelona, 2016.
   Poster Presentation.
4. **Exploring the Glucocorticoid receptor network - challenges in causal inference**
   B. Dumitrascu, J. Lu, B. Jo, I. C McDowell, T. Reddy, and B. E Engelhardt
   Probabilistic Modeling in Genomics, Oxford University, 2016
   Oral Presentation.
5. **BIISQ: Bayesian nonparametric discovery of Isoforms and Individual Specific Quantification from RNA-seq data**
   D. Aguiar, L. F. Cheng, **B. Dumitrascu**, F. Mordelet, A. Pai, and B. E Engelhardt
   American Society of Human Genetics, Baltimore, MD, 2015.
   Poster Presentation.
6. **Detection of variance controlling quantitative traits loci**
   B. Dumitrascu, G. Darnell, J. Ayroles, and B. E Engelhardt
   New York Area Population Genomics Workshop, NYC, 2015
   Oral Presentation.
7. **BTH: A Bayesian test to identify variance quantitative trait loci**
   B. Dumitrascu, G. Darnell, J. Ayroles, and B. E Engelhardt
   American Human Genetics Society Annual Meeting, Baltimore, MD, 2015.
   Poster Presentation.

Teaching Experience

Princeton University
Introduction to Java Programming (ISC231 - COS126), Fall 2015.
Interacting with Data (COS 424), Spring 2015.
Research Topics in Quantitative and Computational Biology(QCB 302), Fall 2014.

Work Experience

June - September 2017 Google Inc. Research Intern (*video recommendation, embeddings)*

Academic Service

2018-	Reviewer for Bioinformatics, JMLR, AISTATS
2017-2018	Graduate student mentor for Undergraduate Junior and Senior Thesis
2014–2016	Princeton Computer Science and Machine Learning Reading Group

Professional Skills

Programming: Python, R, MATLAB