

Dana Udwin

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EDUCATION

Doctor of Philosophy, Biostatistics Expected May 2022
Brown University, Providence, RI
Advisor: Lorin Crawford, Ph.D.
Thesis: Interpretation Methods for Nonlinear Models

Master of Science, Statistics May 2017
University of Massachusetts Amherst, Amherst, MA

Bachelor of Arts, Mathematics May 2014
Smith College, Northampton, MA
Minor: East Asian Language & Literature

RESEARCH

Research Assistant Summer 2018 - Present
Advisor: Dr. Lorin Crawford
Brown University, Department of Biostatistics, Providence, RI

- Developed paradigm for performing analysis of explained variance using Gaussian processes.
- Extended a variable importance measure for Bayesian non-parametric models to the deep learning setting.

Research Assistant Fall 2017
Advisor: Dr. Roee Gutman
Brown University, Department of Biostatistics, Providence, RI

- Performed propensity score analysis on observational study of post-motor vehicle collision emergency department visits to identify causal link between receiving opioids and continued drug dependence.
- Designed and implemented sensitivity analyses to determine robustness of results under confounding.
- Restructured code base to facilitate collaboration and support reproducibility.

Summer Undergraduate Research Fellow Summer 2013
Advisor: Dr. P. Jonathon Phillips
National Institute of Standards and Technology, Gaithersburg, MD

- Analyzed performance of face recognition technologies in point-and-shoot video using 1.8 million frame-by-frame between-video similarity scores and metadata.

Research Assistant Spring 2013 - Fall 2013
Advisor: Dr. Nick Horton
Smith College, Northampton, MA

- Coauthored instructor's guide with code addendum for STatistics Education Web (STEW), the American Statistical Association's online resource for peer-reviewed K-12 lesson plans.

INDUSTRY	<i>Summer Associate</i>	Summer 2020
	RAND Corporation, Arlington, VA <ul style="list-style-type: none"> Constructed a recurrent neural network to anticipate year-over-year retention in the Air Force. Implemented Blinder–Oaxaca decomposition to attribute deviation from expected servicemember separation rates to population shift. 	
	<i>Junior Data Scientist</i>	2014 - 2017
	MassMutual Financial Group, Amherst, MA <ul style="list-style-type: none"> Modeled likelihood to purchase life insurance in order to maximize return on direct mail advertisements. Operationalized customer service outreach program by constructing a pipeline linking disparate databases to score and present calling policyholders in a web application. Revamped corporate spend accounting through a full stack construction that ingests employees' expensed charges into a multi-page interactive visualization. Grouped customers using k-means clustering to inform targeted marketing campaigns. 	
TEACHING	<i>Teaching Assistant</i> , Causal Inference, Brown University	FA 2020
	<i>Co-Instructor</i> , Biostatistics Bootcamp, Brown University	SU 2019, SU 2020
	<i>Grader</i> , Statistical Inference I, Brown University	FA 2019
	<i>Teaching Assistant</i> , Bayesian Statistical Analysis, Brown University	SP 2019
	<i>Teaching Assistant</i> , Applied Statistics, Summer@Brown	SU 2018
	<i>Teaching Assistant</i> , Applied Generalized Linear Models, Brown University	SP 2018
	<i>Teaching Assistant</i> , General, Smith College	SP 2013 - SP 2014
	<i>Grader</i> , Introduction to Statistics, Smith College	SP 2013
PUBLICATIONS	Ish-Horowicz, J., Udwin, D. , Flaxman, S., Filippi, S., Crawford, L. (2019) "Interpreting Deep Neural Networks Through Variable Importance." <i>arXiv</i> .	
	Baumer, B., Udwin, D. (2015) "R Markdown." <i>WIREs: Computational Statistics</i> .	
	Stoudt, S., Cao, Y., Udwin, D. , Horton, N.J. (2014) "What Percent of the Continental US is Within One Mile of a Road?" <i>STatistics Education Web</i> .	
COMMUNITY INVOLVEMENT	<i>Social Committee</i>	2019 - Present
	Department of Biostatistics, Brown University, Providence, RI	
	<i>Diversity & Inclusion Committee</i>	2019 - Present
	Department of Biostatistics, Brown University, Providence, RI	
	<i>Grant Coordinator</i> , PRIDE Business Resource	2015-2017
	MassMutual Financial Group, Springfield, MA	
	<i>Consultant</i>	2015 - 2017 (Annual)
	Five College DataFest, Northampton, MA	
	<i>Tour Guide</i>	2013 - 2014
	Smith College, Northampton, MA	

TALKS	<i>Co-Instructor</i> , R Summer Workshop Series	2016
	Western Mass Statistics and Data Science Meet-Up Graduate Researchers in Data (GRiD), University of Massachusetts, Amherst Graduate Women in STEM (GWIS), University of Massachusetts, Amherst Northampton, MA	
	<i>Guest Lecturer</i> , d3 and Crossfilter	2015
	Western Mass Statistics and Data Science Meet-Up, Northampton, MA	
PROFESSIONAL	<i>Sheridan Teaching Seminar (Certificate I)</i> , Brown University	2020
DEVELOPMENT	<i>Best in Show</i> , Five College Datafest	2014
	<i>Honorable Mention</i> , Undergraduate Statistics Class Project Competition	2014
	<i>Successful Participant</i> , Mathematical Contest in Modeling	2013
COMPUTER SKILLS	<i>Languages & Software</i> : R, Python, C++, SQL, Bash. <i>Visualization</i> : HTML, CSS, JavaScript. <i>Big Data</i> : Spark, HDFS, Vertica. <i>Workflow</i> : Git, L ^A T _E X.	