

# Dana Udwin

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## EDUCATION

*Doctor of Philosophy, Biostatistics*  
Brown University, Providence, RI, Expected 2022

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

*Bachelor of Arts, Mathematics*  
Smith College, Northampton, MA, 2014  
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

*Junior Data Scientist* 2014 - 2017  
MassMutual Financial Group, Amherst, MA

- 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.
- Customer subgroup identification using k-means clustering to inform targeted marketing campaigns.

<b>TEACHING</b>	<i>Grader</i> , Statistical Inference I, Brown University	FA 2019
	<i>Co-Instructor</i> , Biostatistics Bootcamp, Brown University	SU 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." *arXiv*.

Baumer, B., **Udwin, D.** (2015) "R Markdown." *WIREs: Computational Statistics*.

Stoudt, S., Cao, Y., **Udwin, D.**, Horton, N.J. (2014) "What Percent of the Continental US is Within One Mile of a Road?" *STatistics Education Web*.

<b>COMMUNITY SERVICE</b>	<i>Diversity &amp; 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	

<b>TALKS</b>	<i>Co-Instructor</i> , R Summer Workshop Series	Summer 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	

<b>PROFESSIONAL</b>	<i>Best in Show</i> , Five College Datafest	2014
<b>DEVELOPMENT</b>	<i>Honorable Mention</i> , Undergraduate Statistics Class Project Competition	2014
	<i>Successful Participant</i> , Mathematical Contest in Modeling	2013

**COMPUTER  
SKILLS**

*Languages & Software:* R, Python, C++, SQL, Bash.

*Visualization:* HTML, CSS, JavaScript.

*Big Data:* Spark, HDFS, Vertica.

*Workflow:* Git, L<sup>A</sup>T<sub>E</sub>X.