

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. Roe 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.

TEACHING *Grader*, Statistical Inference I, Brown University FA 2019
Co-Instructor, Biostatistics Bootcamp, Brown University SU 2019
Teaching Assistant, Bayesian Statistical Analysis, Brown University SP 2019
Teaching Assistant, Applied Statistics, Summer@Brown SU 2018
Teaching Assistant, Applied Generalized Linear Models, Brown University SP 2018
Teaching Assistant, General, Smith College SP 2013 - SP 2014
Grader, 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*.

COMMUNITY SERVICE *Diversity & Inclusion Committee* 2019 - Present
Department of Biostatistics, Brown University, Providence, RI

Consultant 2015 - 2017 (Annual)
Five College DataFest, Northampton, MA

Guest Lecturer, d3 and Crossfilter 2015
Western Mass Statistics and Data Science Meet-Up, Northampton, MA

Tour Guide 2013 - 2014
Smith College, Northampton, MA

PROFESSIONAL DEVELOPMENT *Best in Show*, Five College Datafest 2014
Honorable Mention, Undergraduate Statistics Class Project Competition 2014
Successful Participant, 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^AT_EX.