Dana Udwin

@	Email:	dana.udwin@gmail.com
☎	Phone:	(301) 806-0827
⚲	Location:	Baltimore, MD
in	LinkedIn:	https://www.linkedin.com/in/dudwin

EDUCATION

Doctor of Philosophy, Biostatistics — November 2022
Brown University, Providence, RI
Advisor: Lorin Crawford, Ph.D.
Title: Linear Mixed Models for Heterogeneity Estimation

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 and Literature

INDUSTRY

Data Scientist Intern — Summer 2021
Meta, New York, New York
- Translated massive, user-level Facebook App for Android clicks into chronological metrics that reflect depleting cellular data, an actionable signal that the application should activate data-saving mode.
- Segmented along derived features to isolate data-constrained users.
- Administered survey to Japanese consumers to validate that model-identified data-constrained individuals are 2.7x as likely to "always" be concerned about running out of data.

Summer Associate — Summer 2020
RAND Corporation, Arlington, VA
- Forecast year-over-year attrition in the Air Force using a recurrent neural network, to inform field-specific recruitment and retention strategy.
- Implemented Blinder–Oaxaca decomposition to break servicemember separation rates into (i) that which is predictable due to population shift, and (ii) that which is revealed through modeling.

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 that links disparate databases, scores policyholders by satisfaction then presents the information in a web application.
- Revamped corporate spend accounting through a full stack construction that ingests employees' expensed charges into a multi-page interactive visualization.
- Created behavioral profiles of customers using non-parametric k-means clustering to inform targeted marketing campaigns.

RESEARCH *Research Assistant*   Fall 2017 - Present
Brown University, Department of Biostatistics, Providence, RI
Under the advisement of Lorin Crawford, Ph.D. (Spring 2018 - Present):
- Conduct dissertation research in interpretable machine learning and non-additive variance estimation.
- With collaborators at the Center for Molecular and Computational Biology, design linear mixed models to estimate complex human trait heritability from DNA.

Under the supervision of Roee Gutman, Ph.D. (Fall 2017):
- 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: P. Jonathon Phillips, Ph.D.
National Institute of Standards and Technology, Information Technology Laboratory, 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: Nick Horton, Ph.D.
Smith College, Department of Mathematical Sciences, 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.

TEACHING *Teaching Assistant,* Causal Inference, Brown University   FA 2020
Co-Instructor, Biostatistics Workshop, Brown University   SU 2019, SU '20, '21
Grader, Statistical Inference I, Brown University   FA 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 Darnell, G., Smith, S.P., **Udwin, D.**, Ramachandran, S., Crawford, L. (2022) "Partitioning Marginal Epistasis Distinguishes Nonlinear Effects from Polygenicity and Other Biases in GWA Summary Statistics." *bioRxiv.*

Ish-Horowicz*, J., **Udwin*, D.**, Kolbeinsson, A., Scharfstein, K., Flaxman, S., Crawford[†], L., Filippi[†], S. (2019) "A Group Variable Importance Framework for Bayesian Neural Networks." *arXiv.*
*Authors contributed equally; [†]Authors contributed equally

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.*

LEADERSHIP AND COMMUNITY INVOLVEMENT	*Student Ambassador* School of Public Health, Brown University, Providence, RI	2021 - 2022
	Social Committee Department of Biostatistics, Brown University, Providence, RI	2019 - 2022
	Diversity & Inclusion Committee Brown University, Department of Biostatistics, Providence, RI	2019 - 2022
	Grant Coordinator, PRIDE Business Resource MassMutual Financial Group, Springfield, MA	2015 - 2017
	Consultant Five College DataFest, Northampton, MA	2015 - 2017 (Annual)
	Tour Guide Smith College, Northampton, MA	2013 - 2014
TALKS	*Co-Instructor*, R Summer Workshop Series Western Mass Statistics and Data Science Meet-Up, Northampton, MA	2016
	Guest Lecturer, d3 and Crossfilter Western Mass Statistics and Data Science Meet-Up, Northampton, MA	2015
PROFESSIONAL DEVELOPMENT	*Sheridan Teaching Seminar (Certificate I)*, Brown University	2020
	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, SAS. *Visualization:* `ggplot`, Shiny, HTML, CSS, JavaScript. *Big Data:* Spark, HDFS, Vertica. *Workflow:* Git, LaTeX.	