

# Brandon Dey

DATA SCIENTIST

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## Summary

I'm a **full stack data scientist** with expertise in end-to-end data analytics processes, from ETL to executive level presentations. My professional background has exposed me to and sharpened my **chops in R, Python, SQL, AWS, Git, and Hadoop**, which I've leveraged to **test client hypotheses, mine actionable, timely customer insights, and build data-driven tools** and systems that monetize proprietary and public data. I have domain knowledge in the Senior Living and Congregate Care industry, experience designing predictive models for non-technical business users, B2B marketing orgs and mobile platforms. My **machine learning interests** are NLP, Neural Networks, and scaling large-scale models.

## Education

### University of Wisconsin - Milwaukee

Milwaukee, Wis

B.A. IN ECONOMICS, GPA 3.73

2010 - 2015

THESIS: "How Has the Black-White Health Gap Changed Over the Last 40 Years?"

### CONTINUING EDUCATION

#### DATA CAMP

2018

- Statistical Modeling I, II
- ggplot2 I, II, III
- Machine Learning in R
- Reporting with R Markdown
- Correlation and Regression
- + a half-dozen more

#### AMAZON WEB SERVICES

Forthcoming

- Big Data Certificate
- Cloud Practitioner Certificate

## Programming Skills

#### LANGUAGES

- SQL (Highly adept, 4 years)
- R (Highly adept, 3 years) {tidyverse, stats, MASS, custom functions}
- SPSS (Proficient, 2 years)
- LaTeX (Proficient, 2 years)
- STATA (Proficient, 1 year)
- Python (Proficient, 1 year) {Beautifulsoup4}

#### TECHNOLOGIES

- Microsoft SQL Server (Highly adept, 4 years) {SSMS, SSRS, T-SQL}
- MySQL (Highly adept, 3 years) {Workbench}
- Microsoft Visio & LucidCharts (Proficient 3 + years)
- R Markdown (Experienced, 2+ years)
- Git (Lab & Hub) (Adept, 1+ year)
- OpenStreetMap (Proficient, 1+ year)
- Hadoop (Working knowledge, < 1 year) {Hive, Impala}
- Tableau (Working knowledge, < 1 year)
- R Shiny (Working knowledge, < 1 year)
- AWS (Proficient) {Redshift}

## Work Experience

## Direct Supply, Inc.

Milwaukee, Wis.

DATA SCIENTIST, DATA SCIENCE

April 2018 - PRESENT

- Served as technical contributor and editor of an internal data science journal focused on (i) discovering actionable customer insights, (ii) recommending what to do about them, (iii) unpacking how to monetize the data generally and (iv) demonstrating the power of machine learning, written for an executive audience.
- Identified an opportunity to create a new line of business after using a Random Forest decision tree to predict if a customer turnover would generate a net profit or loss.
- Designed, built, and evaluated a system that generates recurring monthly call and email campaigns by targeting customers most likely to buy in timeframe using logistic regression. Achieved 13 percentage point boost in clicks and 5 percentage point increase in purchase rate over a 20% holdout group in first 12 months in production (R::stats::glm).
- Built a Latent Dirichlet Allocation Topic Model that predicted what free-form text-based work orders were about, allowing engineering to trigger real time advertising on topical key words entered by mobile app users (R::topicmodels).
- Estimated causal effect of a new product line on existing margin using bayesian structural timeseries models (in absence of randomized experiment), enabling product managers to proceed to rollout more product (R::CausalImpact).
- Predicted date range a skilled nursing facility was to be inspected with 85% accuracy using Stratified Cox survival model to monetize publicly available data from the Centers for Medicare & Medicaid Services (CMS) (R::survival).
- Automated the analysis of a biannual Net Promoter Score survey in R (was living in SPSS), reducing 280 hours of work from 1.5 FTE's to 14 hours of work by 1 FTE using custom-developed library of R functions.
- Helped eCommerce executive leadership meet their KPI of retaining, growing, and finding customers by visualizing a time series of customer lifecycle (new, full, lapsed)(R::TraMineR).
- Estimated opportunity cost of discontinuing support of Internet Explorer 8 to help IT assess impact.

## Direct Supply, Inc.

Milwaukee, Wis.

ANALYTICS ADVISOR, DATA SCIENCE

March 2017 - April 2018

- Partnered with key internal stakeholders for the development of scalable machine learning and predictive modeling solutions. Provided analytical consultation to partners across all departments, ranging from executive level to team members, using R and SQL.
- Created dashboards, reports, and analyses that summarized complex findings to help internal partners make smarter decisions.
- Developed high level data driven insights that confirm or refute partner's hypothesis. Responded to complex inquiries with actionable insights and advice.
- Defined analytical and reporting requirements with partners.

## Direct Supply, Inc.

Milwaukee, Wis.

BUSINESS INTELLIGENCE ANALYST, DATA SCIENCE

Dec. 2015 - March 2017

- Authored an Abandoned Shopping Cart Report that informed sellers when customers in territory placed product in their shopping cart but hadn't purchased yet, which led to a 4 percentage point lift in sales.
- Authored complex SQL queries/views/functions and reports to meet key KPIs, which varied across teams, departments, and business units.
- Acted as an advisor to stakeholders by having knowledge of data structures and system capabilities.

## Direct Supply, Inc.

Milwaukee, Wis.

REPORTING ANALYST INTERN, DATA SCIENCE

Oct. 2014 - Dec. 2015

- Fulfilled reporting requests by building and updating reports and dashboards using SQL, SSRS, and Microsoft Visual Studio.

## University of Wisconsin - Milwaukee

Milwaukee, Wis.

ECONOMICS RESEARCH ASSISTANT, UNDERGRADUATE RESEARCH FELLOWSHIP

Sept. 2014 - Dec. 2014

- Performed tasks to advance the research project of addressing whether a 5 cent plastic bag tax in Washington D.C. led to a decrease in food consumption, employing a difference-in-difference model, under the guidance of Dr. Laura Grant.

## Literacy Services of Wisconsin

Milwaukee, Wis.

MATH BASICS COORDINATOR, INTERN

May 2014 - Aug. 2014

- Developed a new curriculum of basic math courses for adult students and taught all math lessons 1:1.

## Honors & Awards

- |      |   |                 |
|------|---|-----------------|
| 2012 | <b>Recipient</b> , Scholarly Award, Delta Sigma Pi. Highest score on pledge exam. | Milwaukee, Wis. |
| 2010 | <b>Recipient</b> , Most Likely to Succeed Class of 2010 Coleman High School       | Coleman, Wis.   |
| 2010 | <b>Recipient</b> , English Award Coleman High School                              | Coleman, Wis.   |