

Matthew Sartwell

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EDUCATION

- **University of Buffalo** Buffalo, NY
PhD, MA, Mathematics Aug 2010 – Jun 2016
- **State University of New York at Oswego** Oswego, NY
BA, Mathematics Aug 2008 – Jun 2010

Relevant Coursework: Machine Learning, Algorithms and Data Structures, Numerical Analysis, Statistics, Ordinary and Partial Differential Equations, Economics. Attended graduate seminar on topological data analysis at MSRI in Berkeley.

EXPERIENCE

- **Healthcare Analyst** Buffalo, NY
BPAS Feb 2017 - Present
 - **R, Statistics:** Developed code to apply time series techniques and Monte Carlo simulation to predict claims reserves and determine confidence intervals.
 - **SQL:** Used SQL to analyze claims data in order to help our self-insured clients choose a third party administrator.
 - **Python, SAS:** Converted Health and Human Services risk scoring model from SAS to Python.
 - **VBA:** Wrote VBA modules to automate the data cleaning and report generation processes.
 - **Data Acquisition:** Researched where to obtain relevant healthcare datasets and developed strategy to collect data from our clients.
- **Data Analyst** Rochester, NY
HB Solutions Oct 2016 - Feb 2017
 - **SSIS, ETL (Extract-Transform-Load):** Loaded messy census data into SQL staging database with SSIS. Diagnosed and fixed issues with complex SQL queries before loading into the data warehouse.
 - **PowerShell:** Wrote and reviewed PowerShell scripts to aid in automating the data cleaning process.
- **Instructor** Buffalo, NY
University of Buffalo Summer 2012 and 2013
 - **Presentation:** Wrote and presented lectures on topics in mathematics, statistics, and economics.
 - **LaTeX:** Wrote homeworks, quizzes, exams, and beamer presentations using the LaTeX typesetting language.

RELEVANT SKILLS

- **Python:** Including common data analysis and visualization libraries: pandas, numpy, scipy, beautifulsoup, sklearn, pyDatalog, matplotlib, seaborn, plotly, and bokeh.
- **R:** Including common data analysis and visualization libraries: dplyr, tidyr, fitdistrplus, ggplot2, and plotly.
- **SQL:** Wrote complex queries and stored procedures. Familiar with joins, subqueries, aggregate functions and having clauses, temporary tables, cursors.
- **Tableau:** Used Tableau to develop interactive visualizations during exploratory data analysis phase.
- **Excel, VBA:** Expertise in Microsoft Excel, utilizing keyboard shortcuts and macros, with extensive VBA experience.
- **Nonprogramming Skills:** Knowledge of probability, statistics, time series, and several supervised and unsupervised machine learning algorithms as well as methods to increase performance without overfitting.

PROJECTS

- **Predicting Housing Prices in Python:** Goes through exploratory data analysis, fitting hyperparameters using cross-validation, and stacking models to make a final prediction of housing prices in Ames, Iowa.
- **Fitting Distributions in R:** Jupyter notebook showing how to fit distributions in R, first manually, then using the fitdistrplus package.
- **Inpatient Cost Transparency in Tableau:** Tableau workbook investigating the inpatient cost transparency data set available at healthdata.ny.gov.