

## Fisseha Berhane

Data Scientist at [Aurotech](#) and Ph.D. Candidate, Johns Hopkins University  
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### Current Employment

Data Scientist at [Aurotech](#) Sep 2015-  
Developing Analytic Dashboards with R, SparkR, R-Shiny and Tableau

Some prototypes I developed:

- Real-time tracking of disease outbreaks using social media with R and Tableau
- R-Shiny dashboard API that helps to download the FDA adverse events data
- Social media mining to track natural hazards at real-time
- Google Trends Analytics with R-Shiny

### Education

*Johns Hopkins University*, Baltimore, MD --- Ph.D. in Atmospheric Physics      2015  
*Johns Hopkins University*, Baltimore, MD ----M.A. in Atmospheric Physics      May 2013  
*University of Connecticut*, Storrs, CT -----M.S. in Hydro-climatology      May 2011  
*Mekelle University*, Ethiopia -----B.Sc. in Civil Engineering      June 2006

### Research Positions

*Graduate Research Assistant*, Department of Earth and Planetary Science, Johns Hopkins University, Baltimore, Maryland. August 2011 – 2015

- Built semi-automated rainfall prediction models for the globe, with various machine learning techniques such as Tree-based ensemble models (**Bagging**, **Random Forest** and **Boosting**), **Support vector Machines** and **Artificial Neural Network**, with **R (Shiny)**, HTML, JavaScript, and CSS.
- Employed various Machine Learning techniques, statistical analysis and data mining methods using **Python** and **R** to understand interactions of atmospheric waves and their impacts on rainfall using large volume climate data.
- Analyzed large volume climate data, using **Python** and **R**, to investigate future climate conditions
- Completed many side-projects on big data using **Spark** (e.g., movie recommendation, web server log analysis, text mining and entity resolution and click-through prediction; available on my [website](#))
- Worked on many other side-projects using **R** (available on my [website](#))
- In addition to the data science courses I have done in grad school, I have taken more than 20 edx, coursera and Udacity data science courses (including data science specialization from Johns Hopkins University and big data XSeries from

Berkeley) with **R, Spark, Python, Matlab, and Hadoop and MapReduce**  
(certificates on my [website](#))

*Graduate Research Assistant*, Department of Natural Resources and the Environment, University  
of Connecticut, Storrs, CT 2009 – May 2011

- Built and evaluated a model that predicts Nile River flow. Further, examined possible impacts of climate change on river flow using different climate scenarios.
- The main tools I used in this study: **R, Python** and GIS.

### **Publications and Presentations**

Three peer-reviewed publications in the Journal of Climate (JCL), which is among the most prestigious Journals in Atmospheric Science, one in preparation and a master's thesis. More than 12 presentations, including in prestigious international conferences such as the American Geophysical Union (AGU) and the American Meteorological Society (AMS).

### **Teaching Experience**

*Teaching assistant (TA)*, Department of Earth and Planetary Science, The Johns Hopkins University, Baltimore, Maryland. Spring 2013  
*Assistant Lecturer*, Department of Civil Engineering, Mekelle University, Ethiopia 2006-2009

### **Skills**

Python, R, Matlab, Spark, SQL, Tableau, Ferret, NCL, HTML, CSS, JavaScript, Hadoop (familiar), MapReduce (familiar).