

Shawn Davis

Principal Data Scientist

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Summary

Shawn has been working as a data scientist since the completion of his specialized master's degree in data science from the Illinois Institute of Technology. He is currently a principal data scientist on multiple DARPA research programs as well as the principal investigator for a government sponsored project involving the pattern-of-life and analysis of cyber-physical data.

Education

- 2014–2015 **Master of Science in Data Science**, *Illinois Institute of Technology*.
- 2010–2012 **Master of Science in Mathematics**, *University of Illinois at Chicago*.
- 2006–2010 **Bachelor of Arts in Mathematics**, *Boise State University*.
- 2006–2010 **Bachelor of Arts in Philosophy**, *Boise State University*.

Work Experience

- August 2016–Present **Associate Principal Data Scientist**, *KeyW Corporation*.
 - Develop and implement scalable prototypes that address form, function, and pattern-of-life applied to cyber-physical data for a government customer.
 - Developed an analytic framework for analyzing and classifying data using Spark for rapid and extensible research providing a minimum 10X speed-up over traditional workflows.
 - Adapt existing techniques from fields such as natural language processing and graph theory in novel ways to cyber-physical data to uncover new insights.
 - Prepared and presented technical briefs to customers at varying technical levels.
 - Assisted in writing proposals for new contracts in the IoT research space.
- October 2015–August 2016 **Data Scientist**, *Caerus Associates*.
 - Adapted various clustering techniques to detect anomalies in cyber data.
 - Adapted and developed analytics that were run on cyber data at large scale (PB+) in a large CPU cloud environment.
 - Helped create a Spark framework to allow analysts to run anomaly detection techniques on cyber data.
 - Prepared and presented briefs to partners.
 - Prototyped visualizations and worked with the visualization team to visualize cyber data anomalies for analysts.

Computer skills

OS	Linux/Unix, Windows, OSX	Programming	Python, Spark, Java, SQL, Scala
Scientific	R, Weka, MATLAB, Maple	Packages	SparkML, Sklearn, Pandas, NumPy, SciPy

■ Academic Projects

Summer 2015 **Summer Practicum**, *Illinois Institute of Technology*.

- Processed user reviews for over 12,000 hotels using Python.
- Performed frequency analysis and built wordclouds to analyze and visualize the user reviews.
- Performed sentiment analysis on the overall ratings of reviews in order to determine important words and phrases for review sentiment.

Spring 2015 **Data Preparation and Analysis**, *Illinois Institute of Technology*.

- Collected and mapped socio-economic data for Chicago and Baltimore onto GIS maps of the cities.
- Gathered global temperature, GDP, CO2 emission, and happiness data looking for correlations between global warming, GDP, and human happiness.

Fall 2014 **Applied Statistics**, *Illinois Institute of Technology*.

- Collected Twitter data and looked for correlations between trending hashtags and closing prices for stock market composite closings.

■ Publications

Shawn Davis. Representing propositional logic connectives with modular polynomials. *McNair Scholars Research Journal*, 6(1):6, 2010.

Benjamin J Radford, Bartley D Richardson, and Shawn E Davis. Sequence aggregation rules for anomaly detection in computer network traffic. *arXiv preprint arXiv:1805.03735*, 2018.