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# Phil Callahan

Milwaukee, WI 53217 | 720.499.8020 | [employphil@gmail.com](mailto:employphil@gmail.com) | [philsresume.com](http://philsresume.com)

## Data Scientist

Senior data professional with 15+ years of industry experience in data-driven industries. Earned a Master of Science (MS) in data science (4.0 GPA) demonstrating proficiency with programming languages like Python, R, SQL, and Hadoop (HDFS) along with artificial intelligence (AI), Natural Language Processing (NLP), and machine learning (ML) methods like random forest, support vector machines (SVM), linear/logistic regression, decision trees, clustering, classification, sentiment analysis, etc.

In addition to development of data tools, have expertise with visualization software to display analytic results (Tableau, ggplot, etc.) – see [portfolio](#) for examples. Lead projects, reported KPIs to global leadership, trained sites (600+ employees), and worked independently to mine cost-savings methods using available datasets.

- MS in Data Science (2022, 4.0 GPA)
- Informatics platform developer/admin
- Chromatography Data Systems (CDS) Admin
- Business Intelligence Admin
- Document Management Lead for Pharmaceutical Regulatory Inspection Prep Room (10+ inspections with FDA)

## Technical Summary

- **Languages/Libraries:** Python (pandas, numpy, pyomo, nltk, matplotlib, seaborn, math, circlify, etc.) R (tidyverse, dplyr, plotly, htmltools, shiny, etc.), MySQL, Hive, HTML, JavaScript, MDX, PHP, Pig, Scala, Spark, C++
- **Software:** AWS, Epic LIS, PowerBI, Tableau, SAP, Labware Laboratory Informatics System (LIMS), Trackwise (QMS), MS Excel, MS Word, SharePoint, MapReduce, HDFS, Hadoop, Empower Chromatography Data System (CDS)

## Work History

### CSols Inc., Newark, Delaware

#### *Data Scientist*

**Oct 2022 – present**

Provide analytical data science consulting services for life sciences companies including global pharmaceutical, local government, material manufacturing, etc. Additionally, tasked with building out new Data & Analytics department – designing and creating documentation, coding analytical tools (R statistical language, Python, etc.), and sales and marketing collateral ([blog articles](#), whitepapers, [webinars](#), etc.).

- Create data science [predictive](#) / [visualization](#) tools for life science clients using open-source languages R and Python.
- Created data visuals for whitepaper on artificial intelligence and machine learning, created whitepaper on data visualization case study for manufacturing.
- Created and executed Performance Qualification (PQ) for two radiopharmaceutical instrument software applications for global client.

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## **Novartis Pharmaceutical, Broomfield, Colorado**

### ***Data Systems Analyst***

***Jan 2011 – Dec 2019***

Administrator for laboratory informatics system (LIMS), harvested site quality control metrics for dashboarding, and drove process efficiency through business intelligence.

- Designed internal business intelligence SharePoint page to track Lab Service department analytics and discover trending of in-service instruments. Created real-time dashboard of results with PowerBI for site and global leadership monitoring and instrument decommissioning activities.
- Regularly mined data from informatics SQL database for efficiency and investigative work. Constructed ad-hoc SQL queries to site leadership specifications.
- Mined data from informatics SQL database to create regulatory annual report for all sections of analysis (water, environmental monitoring, and raw materials). Trend analysis required prescriptive and descriptive statistical reporting.
- Partnered with Microbiology Lab to convert Environmental Monitoring program from Access database to 21CFRPart11-compliant informatics module.
- Validated first Microsoft Excel spreadsheet in Sandoz North America for GMP use which eliminated five to ten hours of hand-calculations and clerical errors per week for chem lab.
- Avoided regulatory finding by migrating Stability results from legacy platform (ScienTek) to 21CFRPart11-compliant informatics system (LabWare).

## **Education**

**Master of Science – Data Science** (GPA: 4.0), University of Wisconsin, Green Bay, Wisconsin

- [Foundations of Data Science](#)
- [Statistical Methods](#)
- [Programming for Data Science](#)
- [Data Warehousing](#)
- [Big Data: High-Performance Computing](#)
- [Communicating About Data](#)
- [Data Mining & Machine Learning](#)
- [Visualization and Unstructured Data Analysis](#)
- [Ethics of Data Science](#)
- [Prescriptive Analytics](#)
- [Data Science and Strategic Decision-Making](#)
- [Capstone](#) – Operating Room Utilization Optimization at Children's Hospital Colorado

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**Bachelor of Science – Biology**, University of Wisconsin – Eau Claire, Eau Claire, Wisconsin

## Publications

*Mobile Image Ratiometry: A New Method for Instantaneous Analysis of Rapid Test Strips*; [Nature Precedings : doi:10.1038/npre.2012.6827](https://doi.org/10.1038/npre.2012.6827)

*Four Data Visualization Tools Applied to Life Sciences*; <https://www.csolsinc.com/blog/four-data-visualization-tools-applied-to-life-sciences/>

*Five Ways Data Visualization Can Benefit Life Science Businesses, Today*; <https://www.csolsinc.com/insights/webinars/five-ways-data-visualization-can-benefit-life-science-businesses-today/>

*Modern Analytics Applied to Public Health*; <https://www.csolsinc.com/blog/modern-analytics-applied-to-public-health/>