

# Phil Callahan

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

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## Data Scientist

Senior data professional with 15+ years of industry experience in data-driven industries: pharma, manufacturing, biotech, etc. 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 [philsresume.com](http://philsresume.com) and [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 (4.0 GPA)
- Lab Informatics Management Systems (LIMS) developer/admin (7 years)
- Business Intelligence Admin (5 years)
- Audit Experience - Doc Management Lead during pharmaceutical regulatory audits

## 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)
- **Certifications:** Sapio Platform Engineer (2024), ASQ Quality Auditor (2018 – exp'd), HAZWOPER cert. (2007, exp'd)

## Work/Education History

**Oct 2022 – current**

**Data Scientist**

**CSols Inc. – Milwaukee, Wisconsin**

Provide analytical data science consulting services for life science 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](#), white papers, [webinars](#), etc.).

- Create data science [predictive](#) / [visualization](#) tools for life science clients using open-source languages R and Python.
- Created data visuals for white paper on artificial intelligence (AI) and machine learning (ML), created white paper on data visualization case study for manufacturing, created marketing material and web collateral

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- Engineer generative AI prompts for marketing and sales collateral – Midjourney, Dall-e, ChatGPT, etc.
- Business systems analyst at Fortune 500 pharma company leading projects for instrument validation, LIMS implementation for European sites

## **Jan 2020 – May 2022**

### **Master of Science – Data Science (GPA: 4.0)**

#### **University of Wisconsin, Green Bay, Wisconsin**

Curriculum (clickable): 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

## **Jan 2008 – Dec 2019**

### **Business Systems Analyst**

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

Administrator for laboratory informatics system (LIMS), mined 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).

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**Aug 2005 – Aug 2008**

**Lab Manager**

**Hutchinson Technology (TDK) – Eau Claire, Wisconsin**

*Responsible for maintaining chemistry of proprietary machinery involved in the hard drive suspension making process (Developers, Etchers, Strippers, Gold/Nickel Plating Lines, Clean Lines, etc.)*

*Managed 4 - 6 direct reports (labor & absence, corrective action, etc.) GC, Auto-titrator, AA, CVS, ICP, UV-Vis, Anton Paar spec. grav., pH, conductivity, HAZWOPER certification, Scanning Electron Microscopy (SEM) - Hard Particle Analysis, GLP, ISO, PM's (preventative maint.), LIMS super-user, Lotus Notes, SOP / WI revision*

**Jan 2004 – Jul 2005**

**Transformation Tech - GMO**

**Monsanto (Agracetus); Madison, Wisconsin**

*Responsible for most aspects of plant transformation life cycle to genetically modified organism – (esp. seed excision, plant transfer, culturing, etc.).*

**1997 – 2003**

**Bachelor of Science – Biology**

**University of Wisconsin – Eau Claire, Eau Claire, Wisconsin**

## **Publications / Web Collateral**

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

*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/>*

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

*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)*