# CONRAD V. REIHSMANN

## DATA SCIENTIST

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## ABOUT ME

As a current research assistant within the Diabetes Center in VUMC, I've seen firsthand the growing importance of being able to handle and analyze large datasets. Seeing this trend, I was inspired to pivot from my current role towards data science to be able to maximize my contribution. Along my journey in learning these skills, my motivation evolved from merely necessity to genuine enjoyment as I sought to figure out the puzzles of wrangling and analyzing these datasets. With these skills, I'm hoping I'll be able to continue finding more puzzles to solve whether in academia or industry

## SKILLS

- **Python** – data manipulation and exploratory data analysis (EDA) using **pandas**, **numpy**, **regex**, **matplotlib**, **seaborn**, webscraping and html data manipulation with **beautifulsoup** and **requests**
- **R** – data manipulation and EDA with **tidyverse, dplyr, ggplot, plotly**, interactive app development using **R shiny**
- **PostgreSQL** – database import and manipulation (incl. complex joins)
- **Microsoft 365 Suite**
- **HALO® Image Analysis Software**
- **Aperio/Leica ImageScope Image Analysis Software**

## EDUCATION

**Data Science Bootcamp**
Nashville Software School
Apr 2022

**Bachelor of Biological Sciences**
Mississippi State University
May-2016

**Bachelor of Music Education**
Mississippi State University
May-2013

## PROFESSIONAL EXPERIENCE

### DATA SCIENTIST — Sep 2021 – Present

*Nashville Software School | Nashville, TN*

Intensive part-time bootcamp focusing on data science fundamentals and problem solving. Used real-world datasets and included projects where findings were presented to stakeholders from the community.

- Wrangled data and performed exploratory data analysis using Python's pandas library and R's tidyverse packages
- Created data visualizations using matplotlib, seaborn, and ggplot2
- Performed geospatial analysis using geopandas and folium
- Gathered data through APIs and webscraping
- Retrieved and analyzed data using PostgreSQL and sqlalchemy
- Built and evaluated statistical and machine learning models using the scikit-learn and statsmodels libraries
- Applied natural language processing using the nltk and spaCy libraries
- Performed network analysis on graph data using Neo4j
- Built and deployed interactive data visualizations using the R Shiny library
- Source code version control with Git/GitHub
- Project management/tracking with GitHub project boards and issue tracking
- Interacted with AWS using the CLI and ssh

### RESEARCH ASSISTANT II – III — July 2019 – Present

*Vanderbilt University Medical Center, Diabetes Center | Nashville, TN*

- Collaborated with lab members to help efficiently execute experiments and to analyze and visualize data using excel, GraphPad Prism, and R for various publications, posters, and presentations.
- Helped develop and establish new protocols for ELISA and HTRF based hormone assays for the lab and associated Islet Core
- Coordinated with Islet Core to maintain quality through training improving procedures while strengthening communication to complete crucial experiments
- Stained and analyzed histological slides for immunohistochemistry and CODEX

### RESEARCH ASSISTANT I – II, CORE — Jan 2018 – June 2019

*Vanderbilt University Medical Center, Diabetes Center | Nashville, TN*

- Collaborated with other Vanderbilt cores in collecting and analyzing data for joint projects
- Developed new standard procedures for imaging and analyzing islets through CellSens imaging software
- Prepared numerous SOPs for lab procedures and trained team members
- Assisted in the development of the HIPP Website

## PROFESSIONAL EXPERIENCE

**ENVIRONMENTAL LABORATORY INTERN** **May 2015 – Aug 2015**

*Environmental Research & Development Center, Environmental Laboratories | Vicksburg, MS*

- Processed samples collected from coastal wetlands
- Assisted in field work involving data collection for bats and small mammals

**ARCHITECTURE AND ENGINEERING INTERN** **May 2012 – August 2015**

*Engineering Research & Development Center, Funded by Department of Defense, Survivability Branch | Vicksburg, MS*

- Assisted with the development and planning of survivability projects
- Compiled and edited engineering reports
- Built physical models for defense method testing

## DATA SCIENCE PROJECTS

- **ACCRE Project** – Collaborated with the Advanced Computing Center for Research and Education (ACCRE) to investigate effectiveness of their systems scheduler, trend of submitted jobs over time, and overall performance of the system based on traffic. Worked as a part of a larger group in composing visualizations, conclusions, and cohesive presentation for the clients. Datasets used included output file for all jobs run through scheduler and logs of every command to scheduler.
  - Technologies used: **Python**
- **Triathlon: Three Times the Data** – R Shiny app to investigate and visualize the sport of triathlon focusing on overall trends over time, how multiple variables affect final outcomes, and what countries are most competitive. Data used was gathered from results of the World Triathlon race series and was available through API requests at developers.triathlon.org.
  - Technologies used: **R**, **R Shiny**
  - App URL: creihsmann.shinyapps.io/triathlon/
- **Hop Teaming Analysis** – Collaborated with Healthcare Bluebook to build a profile, investigate strengths and weaknesses, and provide recommendations for future growth for Vanderbilt University Medical Center. Analyses performed were based on a database constructed around the Hop Teaming dataset provided from Healthcare Bluebook and the NPPES Data Dissemination dataset. Worked as a part of a larger group to provide visualizations and conclusions and was a part of select group in coordinating a cohesive presentation.
  - Technologies used: **SQL**, **Python**, **Neo4j**, **R**
- **HORNS** – R shiny app to parse and scrutinize data resulting from image analysis through the HALO image analysis software, specifically looking at object data available for export. Provides tools to analyze cell proportions, locations, double positive rates, and intensity values. Data used for testing and development was from the Powers and Brissova research group at Vanderbilt University Medical Center.
  - Technologies used: **R, R Shiny**
  - App URL: https://creihsmann.shinyapps.io/HORNS/

## PEER-REVIEWED PUBLICATIONS & PRESENTATIONS

1. Rachana Haliyur, John T Walker, May Sanyoura, **Conrad V Reihsmann**, Shristi Shrestha, Radhika Aramandla, Greg Poffenberger, Andrea H Ramirez, Sambra D Redick, Jenny Aurielle B Babon, Nripesh Prasad, Robert A Hegele, Sally C Kent, David M Harlan, Rita Bottino, Louis H Philipson, Marcela Brissova, Alvin C Powers, Integrated Analysis of the Pancreas and Islets Reveals Unexpected Findings in Human Male With Type 1 Diabetes, *Journal of the Endocrine Society*, Volume 5, Issue 12, December 2021, bvab162

2. Walker J, Haliyur R, Nelson HA, Ishahak M, Poffenberger G, Aramandla R, **Reihsmann C**, Luchsinger JR, Saunders DC, Wang P, Garcia-Ocaña A, Bottino R, Agarwal A, Powers AC, Brissova M: Integrated human pseudoislet system and microfluidic platform demonstrates differences in G-protein-coupled-receptor signaling in islet cells. JCI Insight, 5(10):e137017, 2020

3. **Reihsmann C**, Saunders DC, Izmaylov N, Kusmartseva I, Yang M, Atkinson MA, Wright CVE, Brissova M, Powers AC: Changes in Islet Cell Composition During Postnatal Human Pancreas Development are Largely Independent of Endocrine Cell Proliferation. Poster presentation at the virtual annual meeting of the Human Islet Research Network, October 2020