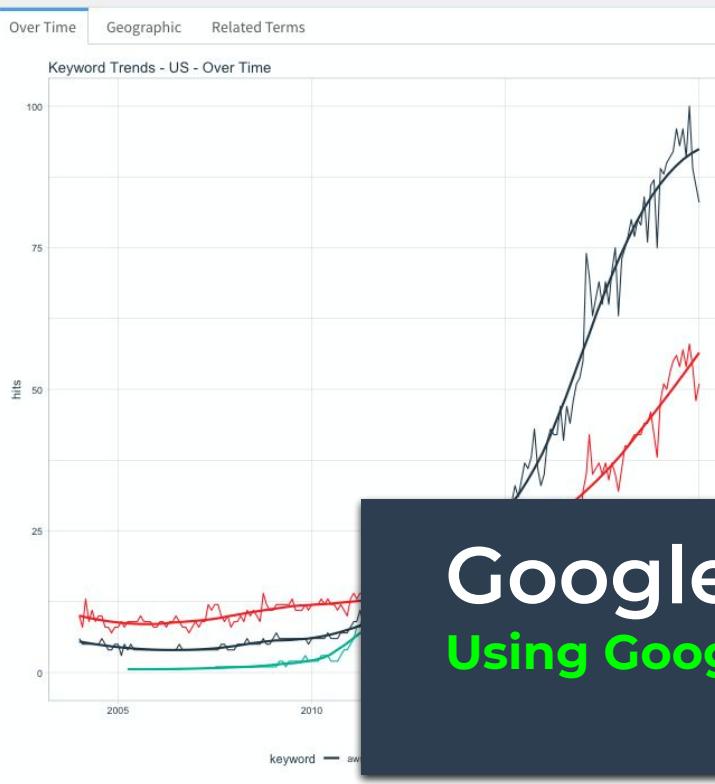


Waiting time between eruptions and the duration of the eruption for the Old Faithful geyser in Yellowstone National Park, Wyoming, USA.

Search Terms

aws google cloud azure

Run Analysis



Email

To:

your_email@gmail.com

Subject:

Google Trends Report - AWS, Azure, GCP

Body:

Hey Matt,

Here's the Google Trends Report on Cloud Technologies.

I'm seeing a big uptick in AWS searches.
Let's inspect some AdWords in the Related AWS Terms.

Google Trends Automation

Using Google Trends, Gmail & R Shiny



Matt Dancho & David Curry
Business Science Learning Lab





Learning Lab Structure

- **Presentation**
(20 min)
- **Demo's**
(30 min)
- **Pro-Tips**
(15 mins)



Matt Dancho

Founder of Business Science, Matt designs and executes educational courses and workshops that deliver immediate value to organizations. His passion is up-leveling future data scientists coming from untraditional backgrounds.



David Curry

Founder of Sure Optimize, David works with businesses to help improve website performance and SEO using data science. His passion is ethical Machine Learning initiatives.

Marketing Series



Learning Labs Pro
Community-Driven Data Science Courses
 Matt Dancho \$19/m

- **Lab 24 - A/B Testing**
 - Business Science's Website
 - Infer - Bootstrap & Permutation
- **Lab 25 - Multi-Channel Attribution (Part 1)**
 - Google Analytics Data
 - ChannelAttribution
- **Lab 26 - ML for Customer Journey (Part 2)**
 - Path Splitting
 - Applied ML for Conversion Probabilities
- **Lab 27 - Automated Prediction & Tracking Google Trends**
 - Google Trend Automation
 - Shiny App



Learning Labs PRO

Every 2-Weeks

1-Hour Course

Recordings + Code + Slack

\$19/month

university.business-science.io

Lab 26 - Marketing Series
Customer Journey with Machine Learning

Lab 25 - Marketing Series
Attribution with ChannelAttribution

Lab 24 - Marketing Series
A/B Testing with Infer

Lab 23 - SQL Series
SQL with BigQuery & Conversion Funnel

Lab 22 - SQL Series
SQL for Time Series

Lab 21 - SQL Series
SQL for Data Science

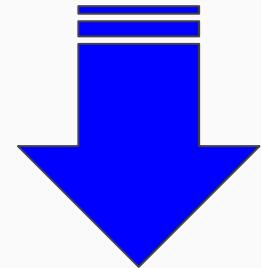
Lab 20 - Machine Learning
Explainable Machine Learning

Lab 19 - Network Analysis
Using Customer Credit Card History for Networks Analysis

Lab 18 - Anomaly Detection



Continuous Learning
Advanced Topics



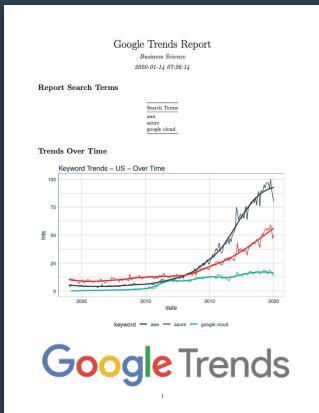
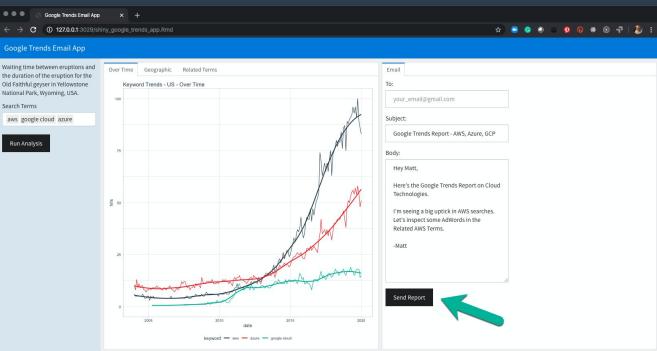
Learning Labs Pro

Community-Driven Data Science Courses

Matt Dancho

\$19/m

Agenda



- **Demo**
- **30-Min Demo**

- **Shiny App** that Emails Reports to Coworkers

- **30-Min Demo**

- gtrendsR
- gmailr
- rmarkdown
- shiny

- **Why Automation?**
- **Pro-Tips & Learning Guide**

- How I got **20 hours/week** of my life back

- **Automation Workflow**



Google Trends Email App

127.0.0.1:3029/shiny_google_trends_app.Rmd

Google Trends Email App

Waiting time between eruptions and the duration of the eruption for the Old Faithful geyser in Yellowstone National Park, Wyoming, USA.

Search Terms

aws google cloud azure

Run Analysis

Demo

Keyword Trends - US - Over Time

Over Time Geographic Related Terms

The chart displays the search volume for three cloud technologies: AWS (black line), Azure (red line), and Google Cloud (green line) from 2005 to 2020. The y-axis represents the search volume, ranging from 0 to 100. All three technologies show a general upward trend, with AWS and Azure showing more significant fluctuations and growth compared to Google Cloud. A large black rectangular overlay with the word "Demo" is positioned in the upper left area of the chart.

date

keyword — aws — azure — google cloud

Email

To:

your_email@gmail.com

Subject:

Google Trends Report - AWS, Azure, GCP

Body:

Hey Matt,

Here's the Google Trends Report on Cloud Technologies.

I'm seeing a big uptick in AWS searches.
Let's inspect some AdWords in the
Related AWS Terms.

-Matt

Send Report

A large green arrow points to the "Send Report" button at the bottom left of the email interface.

Why Automate?

How I got 20 hours/week of my life back



New Sales Manager

Managed a Technical Sales Team

I was responsible for a number of Weekly Reports: **20hrs/week**

1 Weekly Report = 5-hr+ week

- 2-hrs+ meetings
- 2-hrs+ report creation
- 30-min summary email
- Lots of errors
- 5-hrs/week





What did I do?

I built a **database** with a front end

The screenshot shows the Microsoft Access 2007 application window titled "bankdb : Database (Access 2007) - Microsoft Access". The ribbon tabs include Home, Create, External Data, Database Tools, and Acrobat. The left pane displays the "All Tables" list, with "Customer" and "Accounts" tables selected. The main area shows a form titled "CustomerDataEntry" with fields for CustomerID (1001), FirstName (Joseph), LastName (Smith), StreetAddress (123 Lexington), City (Smithville), State (KY), and Zip (91232). The status bar at the bottom indicates "Record: 1 of 4" and "No Filter". A tooltip at the bottom left says "The unique identifier for a customer".





What did I do?

I spent time **training**

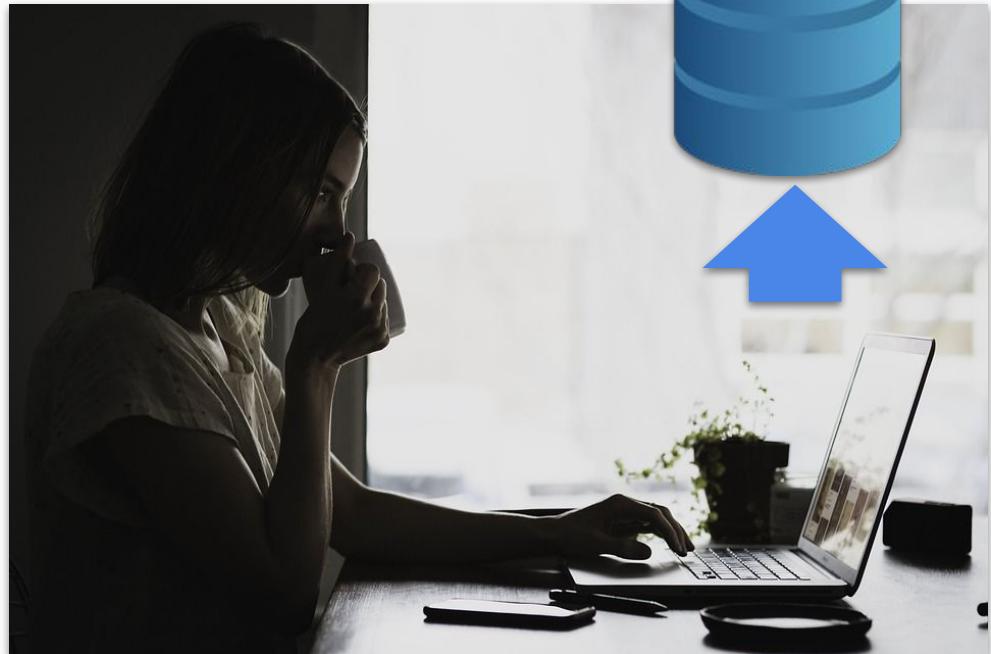




What did I do?

I made them **accountable**

Credit happens here:





What did I do?

I reduced my time in the process

Analysis happens here:



Google Trends Email App

Waiting time between eruptions and the duration of the eruption for the Old Faithful geyser in Yellowstone National Park, Wyoming, USA.

Search Terms: aws google cloud azure

Run Analysis

Over Time Geographic Top Related Terms

Keyword Trends - US - Over Time

hits

date

keyword

aws (black line)

azure (red line)

google cloud (green line)

Email

To: gtrendy184@gmail.com

Subject: Google Trends Report - AWS, Azure, GCP

Body:

Hey Matt,

Here's the Google Trends Report on Cloud Technologies.

I'm seeing a big uptick in AWS searches. Let's inspect some AdWords in the Related AWS Terms.

-Matt

Send Report



No more of this



I felt like this

A wide-angle photograph of a rugged landscape. In the foreground, a man with light-colored hair stands on a rocky, turbulent riverbank, facing away from the camera towards a dense forest. The river flows from the background towards the bottom left. The middle ground is filled with a steep hillside covered in a mix of green coniferous trees and bare deciduous trees, some with autumn-colored leaves. The background is dominated by a large, misty mountain range under a hazy sky.

Now I could do
more of this



What did I do?

I invested my time learning R, Shiny, and the tidyverse.



Automation Workflow

Automating Google Trends Reporting

Automation Workflow

Step-By-Step



Analysis Script

Connect to GTrends API
Wrangle & Visualize Data

Report Template & Automation Script

Generate PDF Report
Send with Gmail

Shiny App

Automate with a Shiny App

30-Min Demo

Let's do this!

PRO-TIPS

Yeahhhhhh!

Pro-Tip #1: Get data into a database



No



Yes



Pro-Tip #1: Use Shiny as an interface



Google Trends Email App

Waiting time between eruptions and the duration of the eruption for the Old Faithful geyser in Yellowstone National Park, Wyoming, USA.

Search Terms: aws google cloud azure

Run Analysis

Over Time Geographic Top Related Terms

Keyword Trends - US - Over Time

hits

date

keyword

- aws
- azure
- google cloud

Email

To:

gtrandy184@gmail.com

Subject:

Google Trends Report - AWS, Azure, GCP

Body:

Hey Matt,

Here's the Google Trends Report on Cloud Technologies.

I'm seeing a big uptick in AWS searches.
Let's inspect some AdWords in the Related AWS Terms.

-Matt

Send Report



Pro-Tip #3: Find ways to remove you from the process



Give businesses apps

Rather than send a report

Let your **audience interact** with data using your analysis

The image shows a Shiny web application interface titled "Employee Attrition Prevention". The dashboard features a main title "Employee Attrition Prevention" and a sub-section "Employee Card" showing details for "Denise Mooney". The "Employee Card" includes fields for "Employee Name" (Denise Mooney), "Department" (Sales), and "Job Role" (Sales Executive). To the right of the card is a section titled "Cause & Prevention Recommendations" which lists various factors such as "Overtime = Yes", "StockOptionLevel = 0", and "4 < NumCompaniesWorked". Below these factors are two ggplot2 visualizations: one showing a stacked bar chart and another showing a line plot. A third visualization, a lime slice, is labeled "Professional development Recommendation". On the far right, there is a red box labeled "Personal Development Recommendation" with the text "Seek Mentorship Role". A yellow box with the "H2O.ai" logo is overlaid on the top right of the dashboard. Three blue arrows point from the "H2O.ai" logo towards the dashboard, the "Employee Card" section, and the ggplot2 visualizations respectively. In the bottom left corner of the slide, there is a blue hexagonal badge with the "Shiny" logo.

4-Course R-Track System



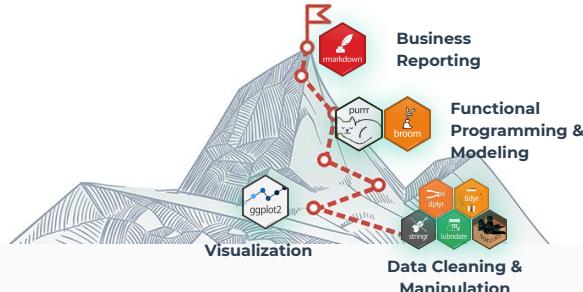
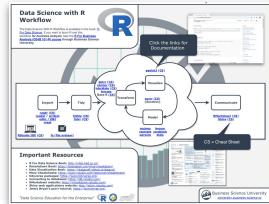
Business Analysis with R (DS4B 101-R)

Data Science For Business with R (DS4B 201-R)

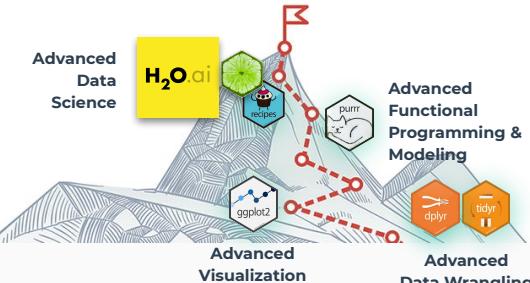
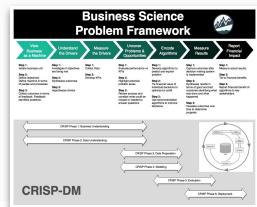
Web Apps & Shiny Developer (DS4B 102-R + DS4B 202A-R)

Project-Based Courses with Business Application

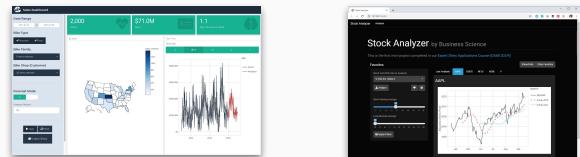
Data Science Foundations
7 Weeks



Machine Learning & Business Consulting
10 Weeks



Web Application Development
12 Weeks

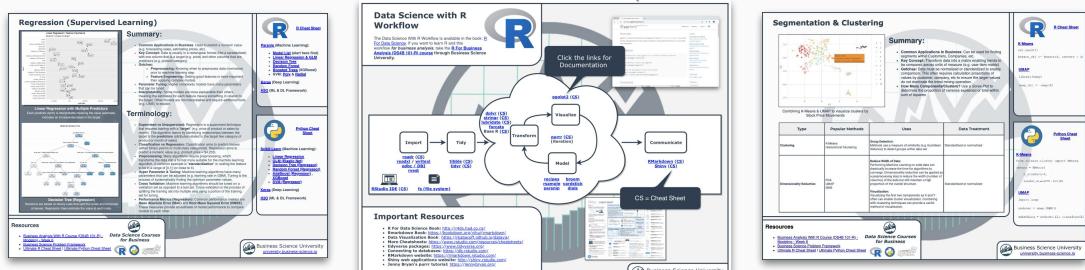


Key Benefits

- Fundamentals - Weeks 1-5 (25 hours of Video Lessons)
 - Data Manipulation (dplyr)
 - Time series (lubridate)
 - Text (stringr)
 - Categorical (forcats)
 - Visualization (ggplot2)
 - Programming & Iteration (purrr)
 - 3 Challenges
- **Machine Learning - Week 6 (8 hours of Video Lessons)**
 - Clustering (3 hours)
 - Regression (5 hours)
 - 2 Challenges
- Learn Business Reporting - Week 7
 - RMarkdown & plotly
 - 2 Project Reports:
 1. Product Pricing Algo
 2. Customer Segmentation

Business Analysis with R (DS4B 101-R)

Data Science Foundations
7 Weeks



Key Benefits

End-to-End Churn Project

Understanding the Problem & Preparing Data - Weeks 1-4

- Project Setup & Framework
- Business Understanding / Sizing Problem
- Tidy Evaluation - rlang
- EDA - Exploring Data -GGally, skimr
- Data Preparation - recipes
- Correlation Analysis
- 3 Challenges

Machine Learning - Weeks 5, 6, 7

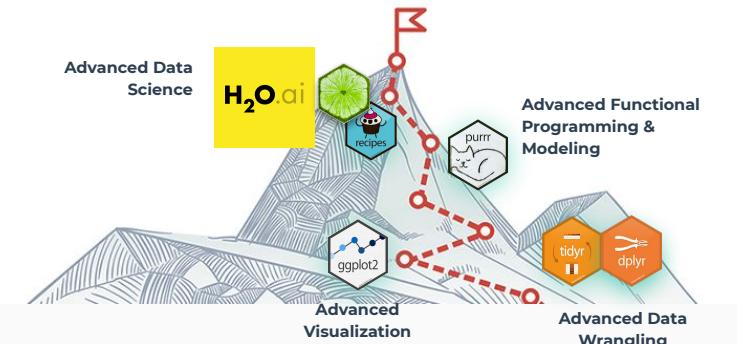
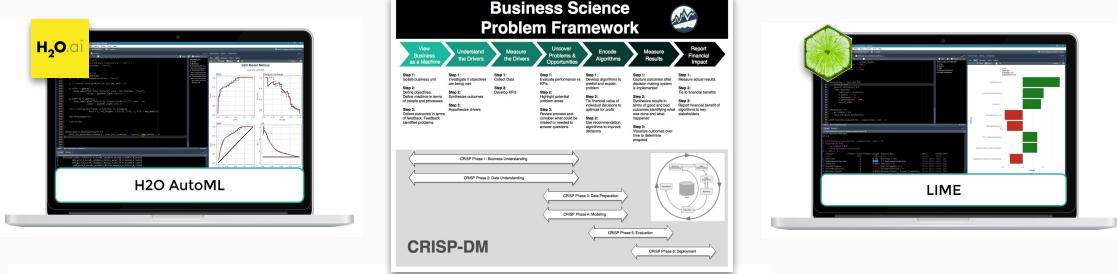
- H2O AutoML - Modeling Churn
- ML Performance
- LIME Feature Explanation

Return-On-Investment - Weeks 7, 8, 9

- Expected Value Framework
- Threshold Optimization
- Sensitivity Analysis
- Recommendation Algorithm

Data Science For Business (DS4B 201-R)

Machine Learning & Business Consulting
10 Weeks



Key Benefits

Learn Shiny & Flexdashboard

- Build Applications
- Learn Reactive Programming
- Integrate Machine Learning

App #1: Predictive Pricing App

- Model Product Portfolio
- XGBoost Pricing Prediction
- Generate new products instantly

App #2: Sales Dashboard with Demand Forecasting

- Model Demand History
- Segment Forecasts by Product & Customer
- XGBoost Time Series Forecast
- Generate new forecasts instantly

Shiny Apps for Business (DS4B 102-R)



Web Application Development
4 Weeks

The collage includes:

- A "Data Science with R" course screenshot showing a "Sales Dashboard" with metrics like 2,000, \$71.0M, and 1.1, along with a map of the US and a time series plot.
- A flowchart titled "Data Science with R: Web Applications & the 'Shiny' Course" showing the process from "Start" to "Publish".
- A comparison between "Flexdashboard Apps" and "Shiny Apps", noting that Shiny is more powerful and flexible.
- A "Themes, Dashboards, & Examples" section featuring "Flexdashboard Examples", "Shiny Examples", and "Themes Examples".
- A "Business Science University" course page for "Data Science for Business" with various course modules listed.
- A "Data Science with R" course page showing a "Sales Dashboard" with multiple charts and filters.



DS4B 102-R: Shiny Web Applications for Business (Level 1)

Build a predictive web application using Shiny, Flexdashboard, and XGBoost.

Matt Dancho

Key Benefits

Frontend + Backend + Production Deployment

Frontend for Shiny

- Bootstrap

Backend for Shiny

- MongoDB
- Dynamic UI
- User Authentication
- Store & Write User Data

Production Deployment

- AWS
- EC2 Server
- VPC Connection
- URL Routing

Shiny Apps for Business (DS4B 202A-R)



Web Application Development
6 Weeks



15% OFF PROMO Code: **learninglabs**



R-TRACK BUNDLE

4-Course Bundle - Machine Learning + Expert Web Applications (R-Track)

Go from Beginner to Expert Data Scientist & Shiny Developer in Under 6-Months

4 Course Bundle ~~\$1,500~~

\$127/mo Limited Time

DS4B 101-R: Business Analysis With R

Your Data Science Journey Starts Now! Learn the fundamentals of data science for business with the tidyverse.

Matt Dancho

DS4B 102-R: Shiny Web Applications For Business (Level 1)

Build a predictive web application using Shiny, Flexdashboard, and XGBoost.

Matt Dancho

<input type="radio"/>	Paid Course 15% COUPON DISCOUNT	\$1,596 \$2,356.60
<input checked="" type="radio"/>	12 Low Monthly Payments 15% COUPON DISCOUNT	12 payments of \$149/m 12 payments of \$126.65/m

Begin Learning Today

university.business-science.io

