



Employee Attrition Prevention

Select an employee, and learn how best to prevent their attrition.

Denise Mooney, 71.8%



Attrition Risk

71.8%



Prediction

Leave



ML Powered Web Apps

Decision Making at Scale

Sales Executive

JobLevel = 2

YearsSinceLastPromotion <= 1

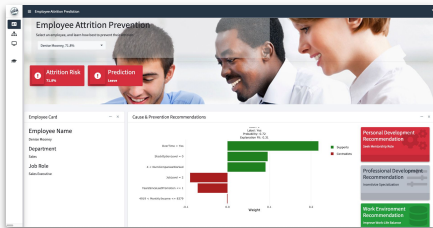
Professional Development
Recommendation

Incentivize Specialization

Matt Dancho

Business Science Workshop at DSGO19





Software Dev

tidyquant

130K+ Downloads

Consultant

Fortune 500

Build Software, Train People, Get ROI

Founder

Business Science

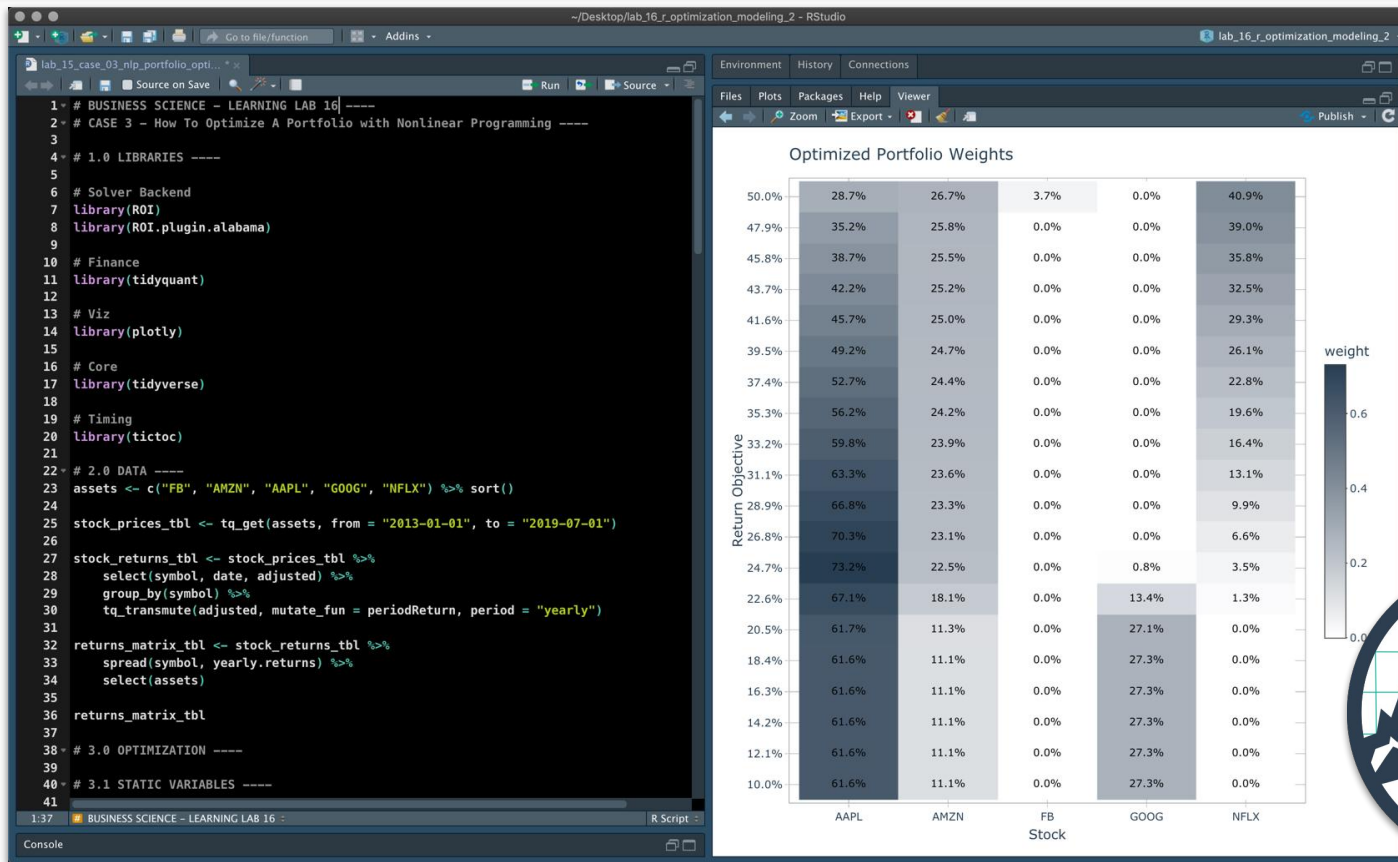
www.business-science.io

13 years of business experience. And, I like to **educate**.



Matt Dancho

Data Science Resume



Now I get to do fun things like DSGO!

ML Powered Web Apps for Business!



Matt Dancho

Day 1, Friday 27

Day 2, Saturday 28

Day 3, Sunday 29

The Newcomer

The Practitioner

The Manager

Artificial Intelligence

Big Data / Analytics

Machine Learning

Data Visualization

Data Science in Business

Deep Learning

Careers / Empowerment

8:00 - 17:00

Exclusive Workshops: These are NOT included in the regular ticket price and are sold separately after securing your DSGO pass. *We have limited seats available.*

Main Foyer

Registration for Training Day

Workshop Room 1

Michael Padilla

Incorporating Docker into Your Data Science Workflow

|

Workshop Room 2

Geoff Sims

Beyond bi-grams: How to Make Friends with Product Managers

|

Workshop Room 1

Kirill Eremenko

Visualization & Presentation Hacks for Data Scientists

|

Workshop Room 2

Laura Norén

Are you an Ethical Technologist? Build your Ethical Imagination

|

Workshop Room 1

Alison Peebles Madigan

Saving Puppies with Pandas

|

Workshop Room 2

Matt Dancho

Building Machine Learning-Powered Web Applications for the Business

|

16:00 - 18:00

Pre-Registration for the Conference

18:00 - 21:00

Networking bar crawl

The Roadmap

How **Web Apps** Solve Business Problems

Case Study: True Cost of Employee Churn



- **SIMPLE CALCULATION**

Direct costs

Lost Productivity

Savings (Salary & Benefits)

- **\$78K COST / EMPLOYEE**

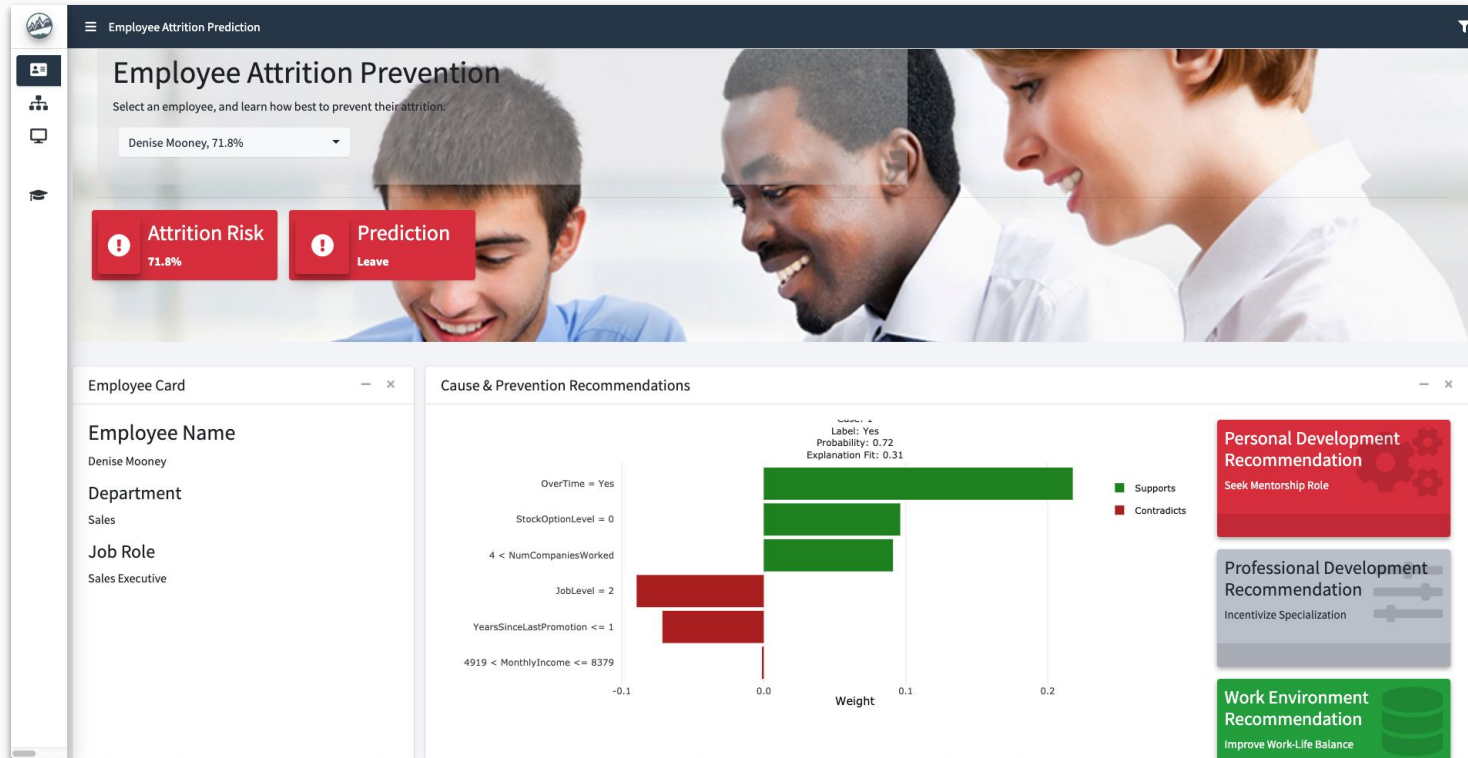
- **IF ORGANIZATION LOSES 200 HIGH PERFORMERS EACH YEAR...**

```
calculate_attrition_cost <- function(  
  
  # Employee  
  n          = 1,  
  salary     = 80000,  
  
  # Direct Costs  
  separation_cost = 500,  
  vacancy_cost   = 10000,  
  acquisition_cost = 4900,  
  placement_cost  = 3500,  
  
  # Productivity Costs  
  net_revenue_per_employee = 250000,  
  workdays_per_year       = 240,  
  workdays_position_open  = 40,  
  workdays_onboarding     = 60,  
  onboarding_efficiency    = 0.50  
  
) {  
  
  # Direct Costs  
  direct_cost <- sum(separation_cost, vacancy_cost, acquisition_cost, placement_cost)  
  
  # Lost Productivity Costs  
  productivity_cost <- net_revenue_per_employee / workdays_per_year *  
    (workdays_position_open + workdays_onboarding * onboarding_efficiency)  
  
  # Savings of Salary & Benefits (Cost Reduction)  
  salary_benefit_reduction <- salary / workdays_per_year * workdays_position_open  
  
  # Estimated Turnover Per Employee  
  cost_per_employee <- direct_cost + productivity_cost - salary_benefit_reduction  
  
  # Total Cost of Employee Turnover  
  total_cost <- n * cost_per_employee  
  
  return(total_cost)  
}
```

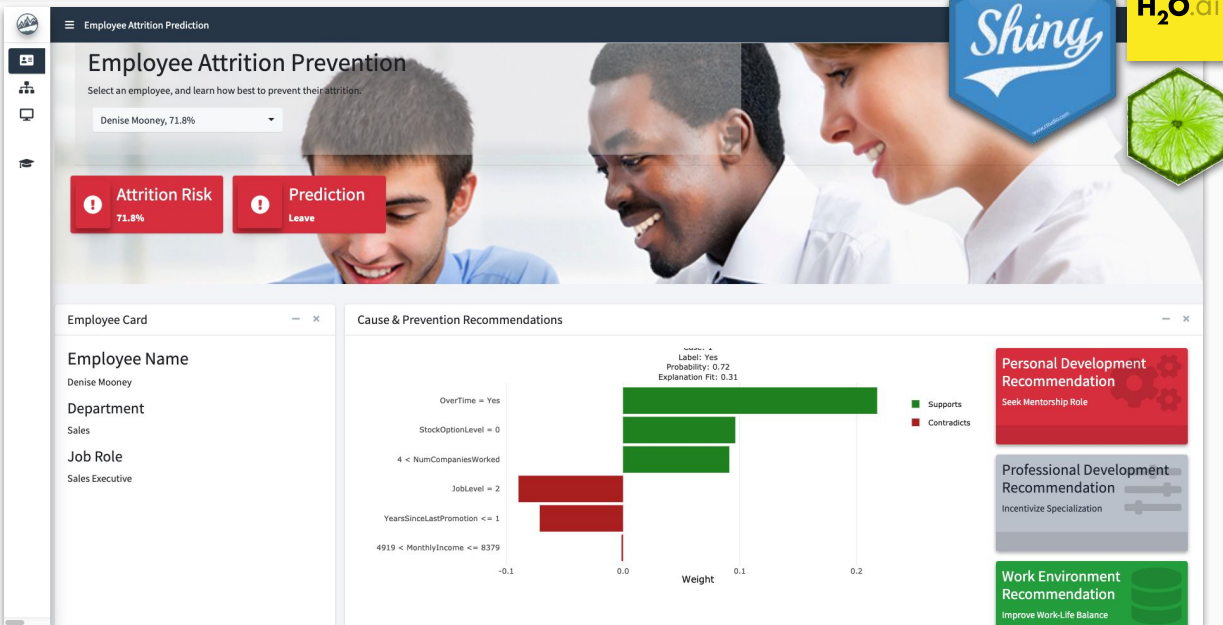
\$15M

Per Year

How much you can save your organization by solving a
large business problem

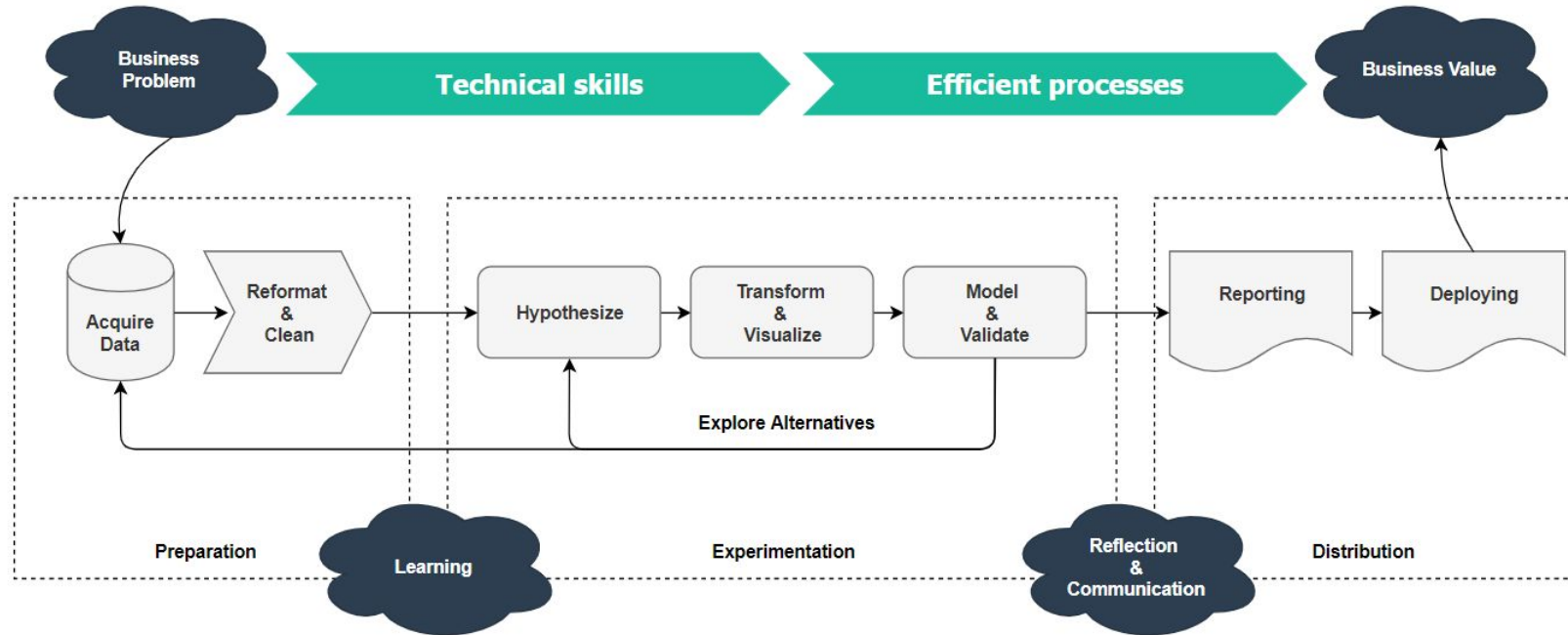


Drive Business Outcomes with Web Apps

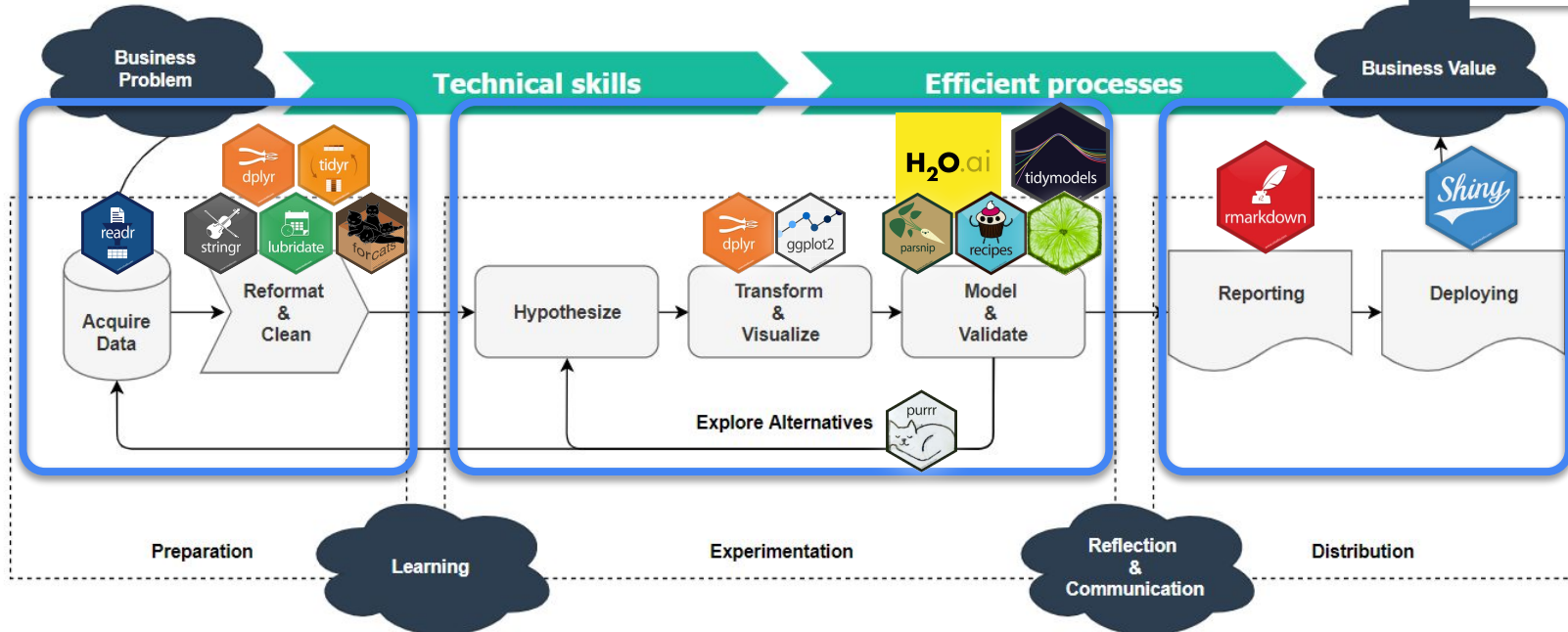
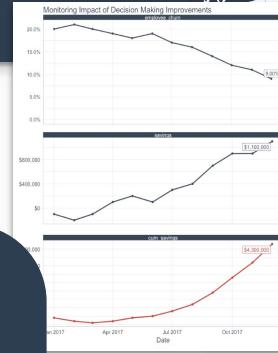
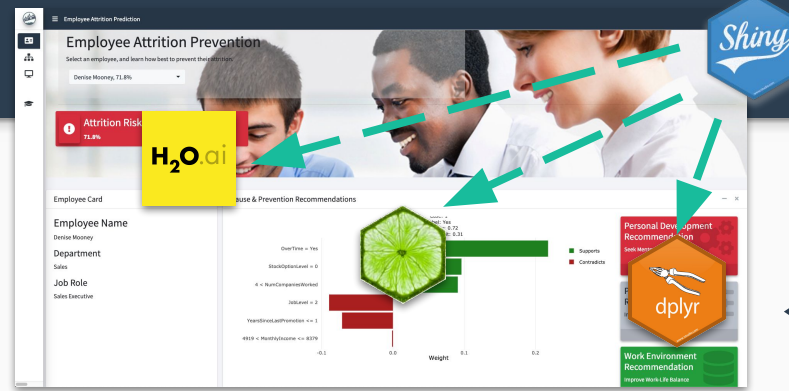


THE
“BETTER DECISION-MAKING”
EFFECT

Data Science Workflow



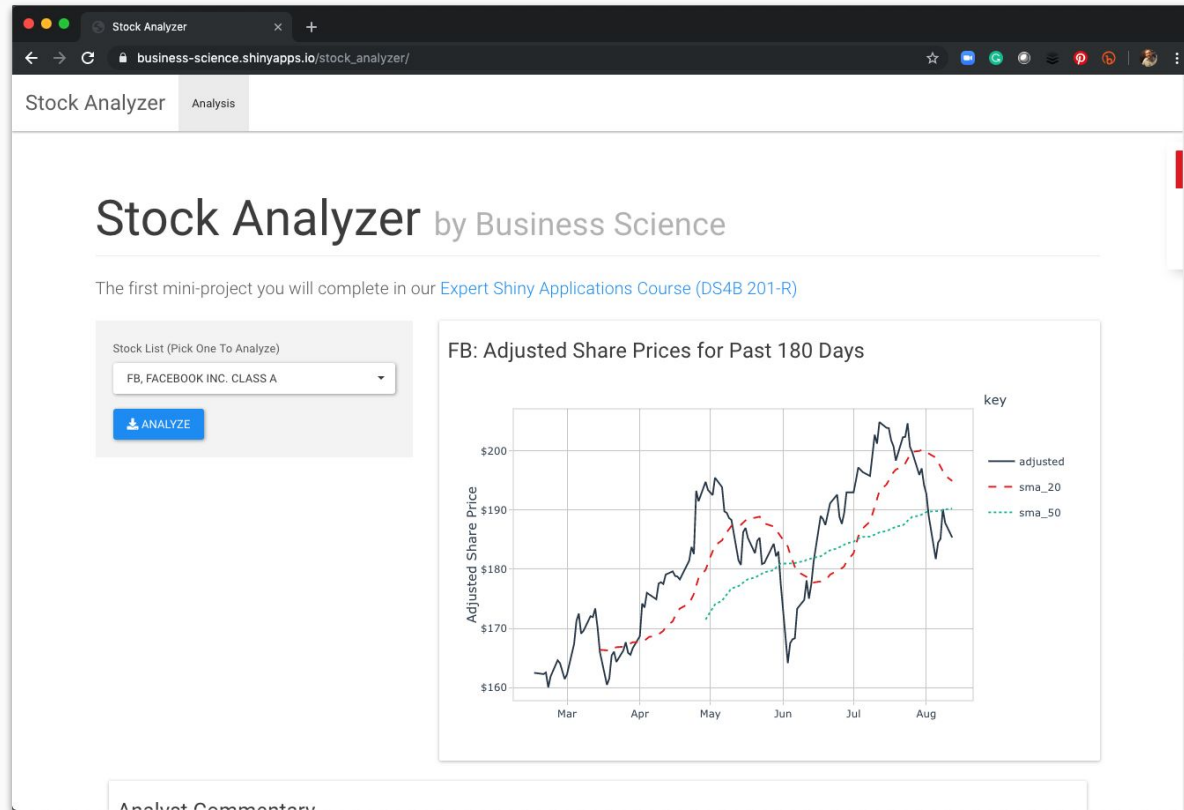
Data Science Workflow



The Plan

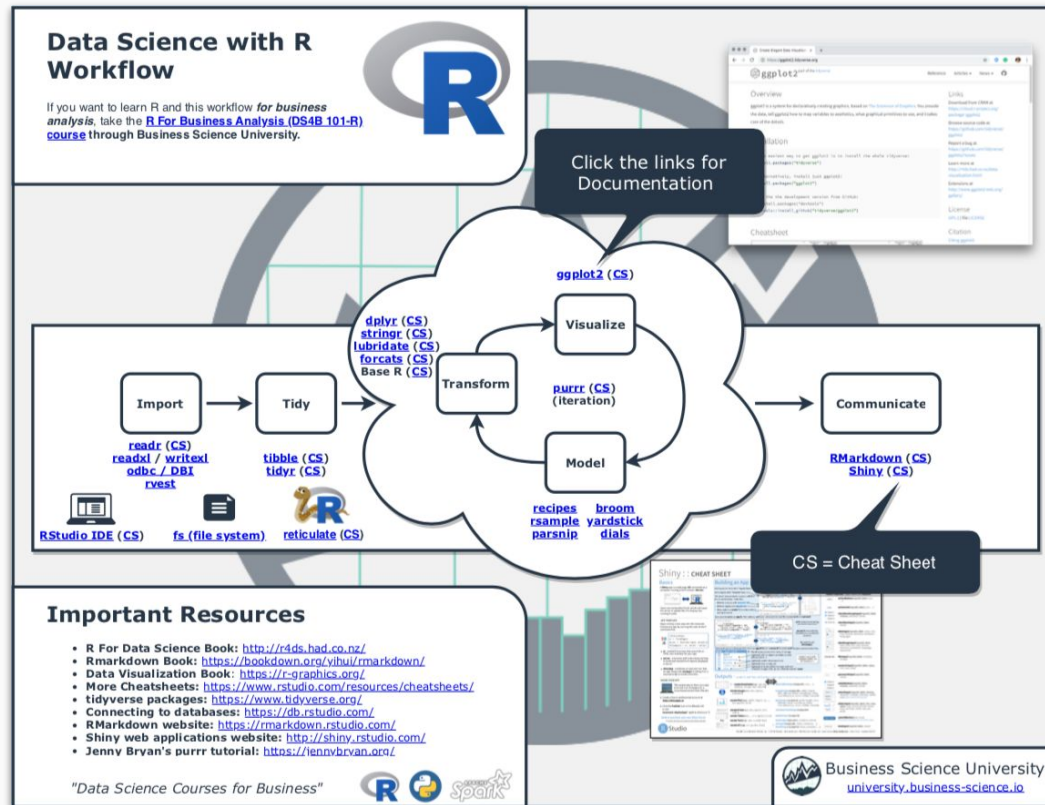
DSGO19 Workshop

Build a Stock Analyzer App



The Resources

Thank you for showing up







The image shows a web application interface for "Employee Attrition Prevention". At the top, there's a header with a hamburger menu icon and the title "Employee Attrition Prediction". Below the header, the main content area features a large background image of three smiling people. Overlaid on this image are two red buttons: "Attrition Risk 71.8%" and "Prediction Leave". Below the main image, there's a dark blue banner with the text "ML Powered Web Apps" in white and "Decision Making at Scale" in green. To the left of this banner is a large blue "R" logo. Below the banner, there's a table with columns for "Sales Executive", "JobLevel = 2", and "YearsSinceLastPromotion <= 1". To the right of the table, there's a sidebar with a red button labeled "Development Recommendation" and a grey button labeled "Professional Development Recommendation". Below the grey button, there's a slider control labeled "Incentivize Specialization".

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