CAREERS IN DATA SCIENCE FOR ACADEMICS

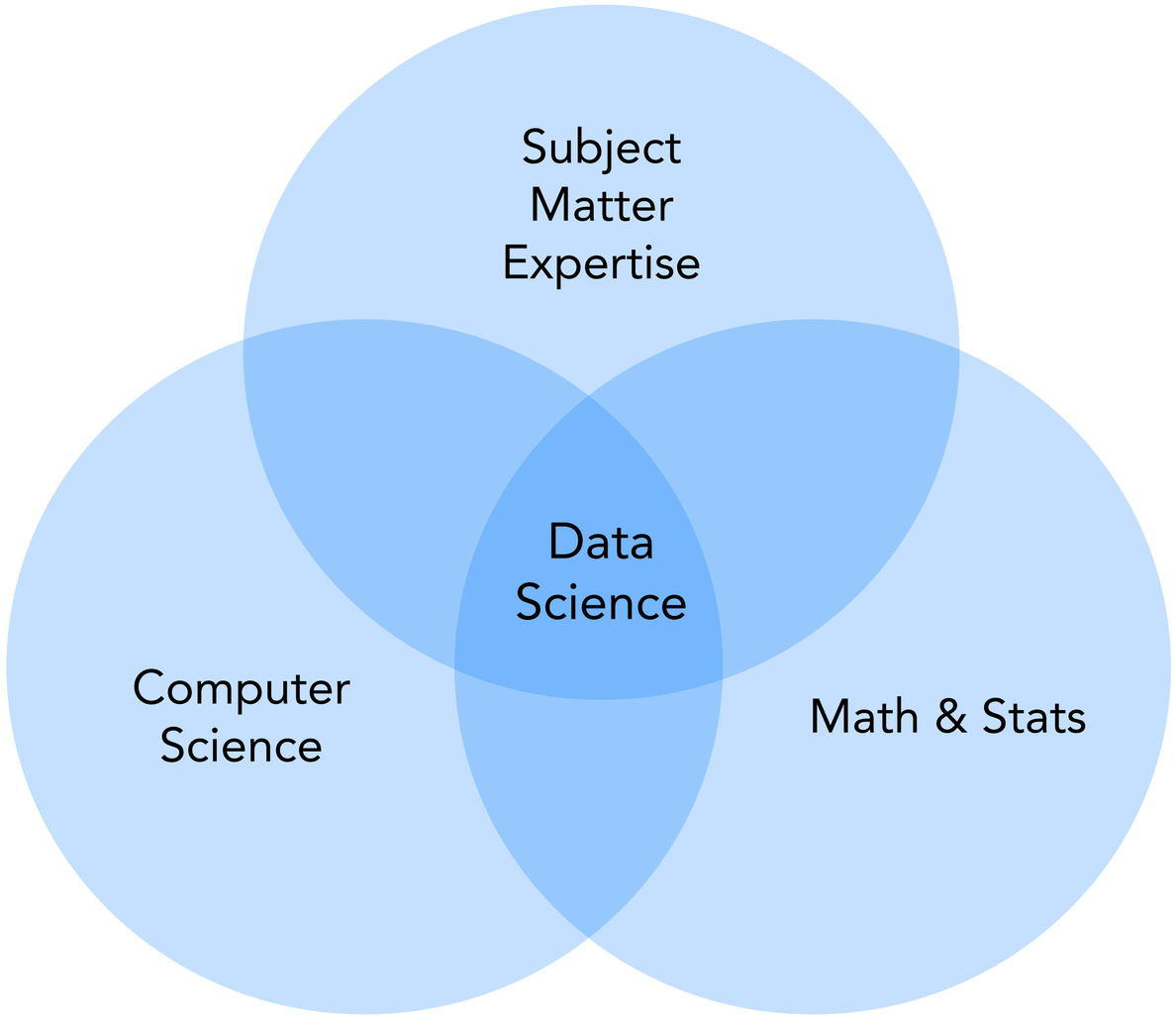
INSIGHT DATA SCIENCE

October 8, 2020

MY PATH INTO DATA SCIENCE: EMILY KEARNEY

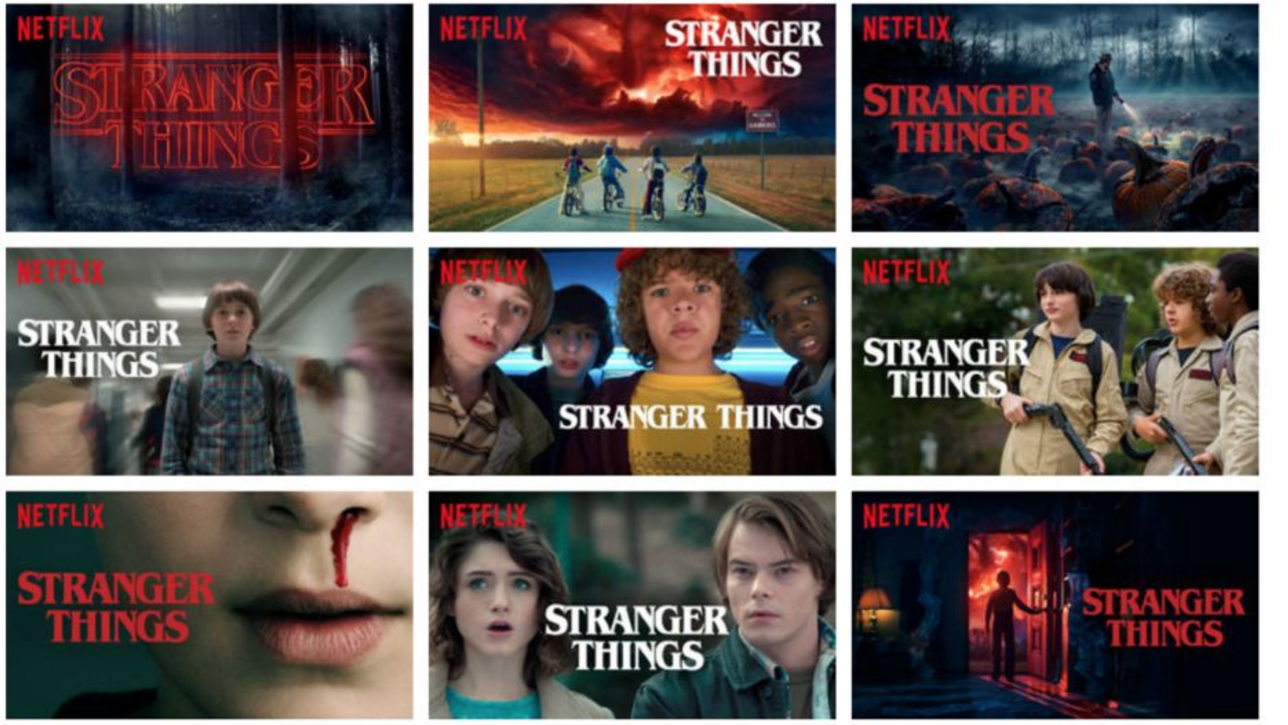
INSIGHT

WHAT IS DATA SCIENCE?



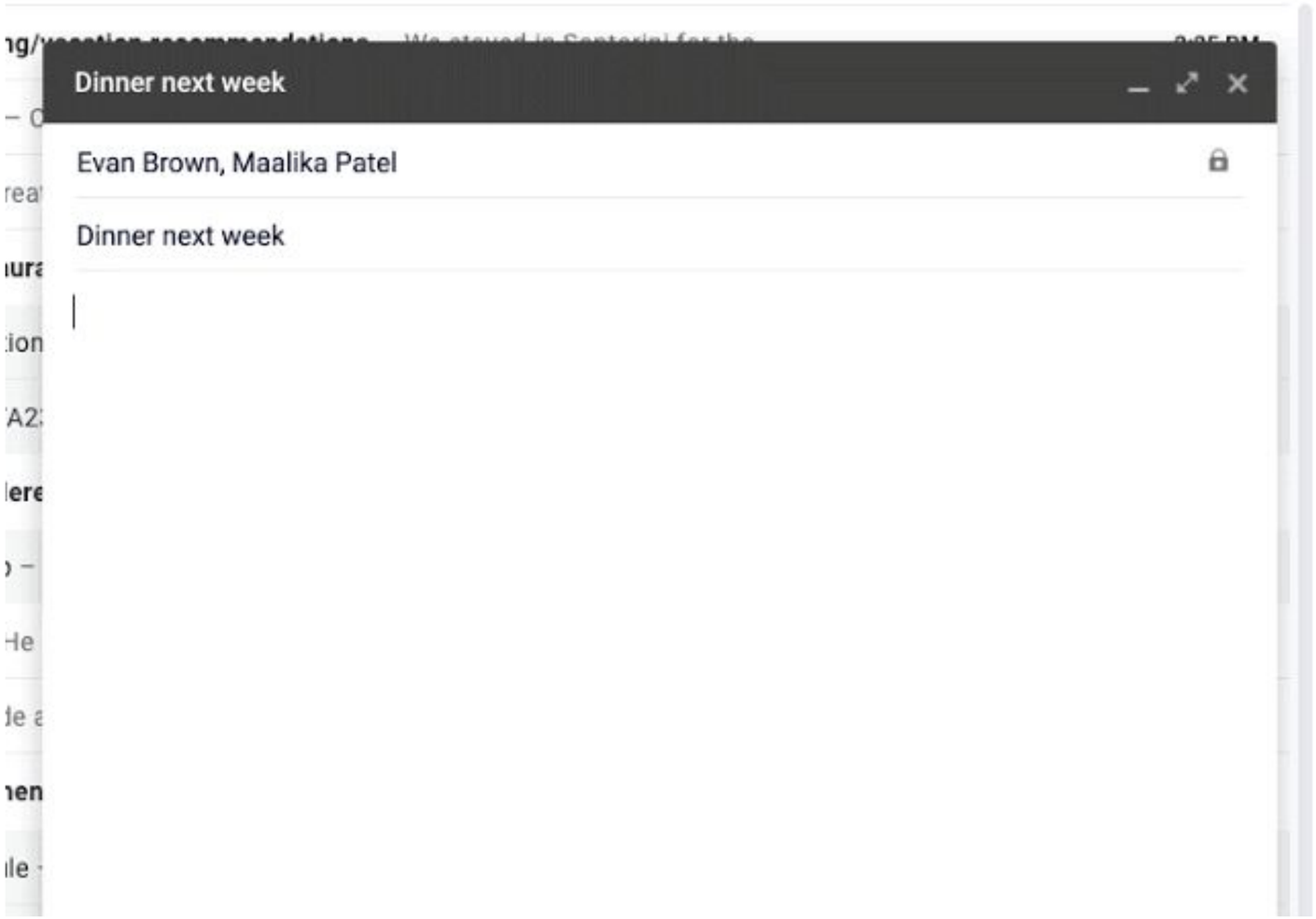
NETFLIX

Different images cover a breadth of themes in the show to go beyond what any single image portrays.

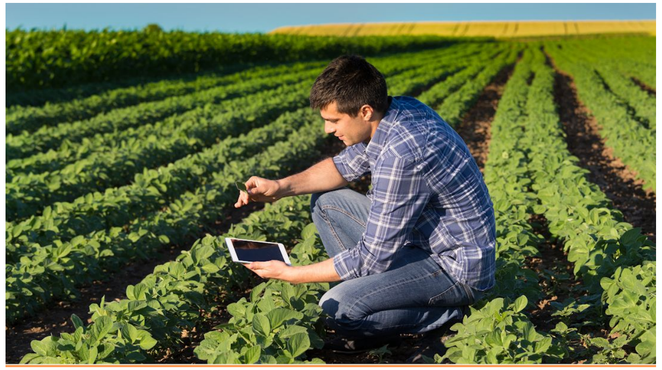


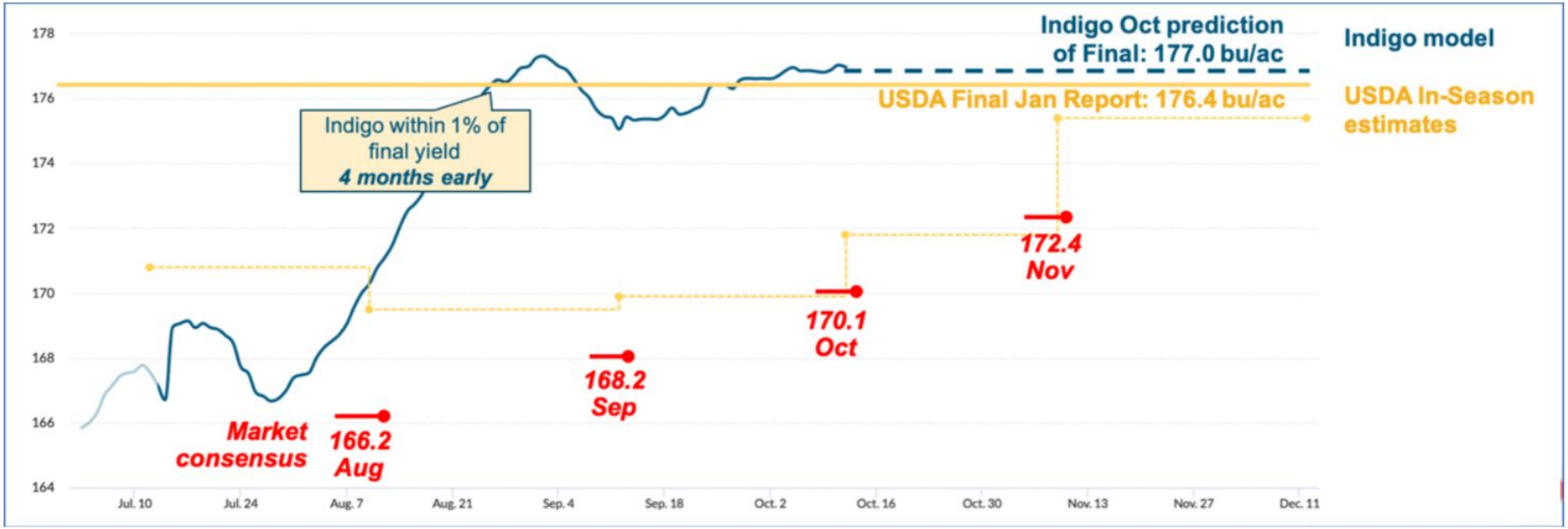
Personalized artwork depending on users interest in different actors.

Google Smart Compose



indigo





https://www.indigoag.com/blog/indigo-atlas-living-map-of-the-worlds-food-system

IS DATA SCIENCE RIGHT FOR YOU?

HOW DO YOU GET IT IN?

Who are **Academic** Scientists?

Job of an academic scientist:

- Plan and execute a study ~ years
- Collect and clean data
- Use programming and statistics/ML to discriminate between signal and noise
- Convey results to the scientific community

Who are Data Scientists?

Job of a data scientist in industry:

- Plan and execute a study ~ week-long sprints
- Collect and clean data
- Use programming and statistics/ML to discriminate between signal and noise
- Convey results to the team/company/investors
- Make data-informed decisions that directly impact a product and a business

The Modern Data Scientist

Math and Statistics

- Machine learning
- Statistical modeling
- Experimental design
- Bayesian inference
- Supervised learning
- Unsupervised learning
- Optimization

Programming and Database

- Computer science fundamentals
- Scripting language e.g., Python
- Statistical computing packages, e.g., R
- Databases; SQL
- Parallel databases and parallel query processing
- MapReduce concepts
- Hadoop, Hive, Spark
- Experience with AWS

Domain Knowledge and Professional Skills

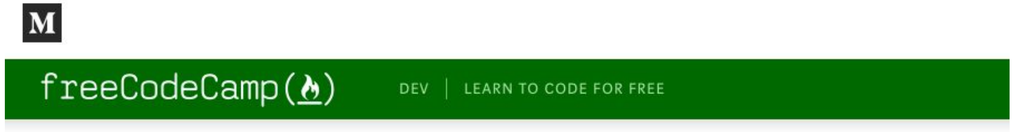
- Passionate about the business
- Curious about data
- Influence without authority
- Hacker mindset
- Problem solver
- Strategic,proactive, creative, innovative, and collaborative

Communication and Visualization

- Able to engage with senior management
- Storytelling skills
- Translate data driven insights into decisions and actions
- Visual art design
- Knowledge of visualization tools

EXAMPLE ROLES IN DATA SCIENCE

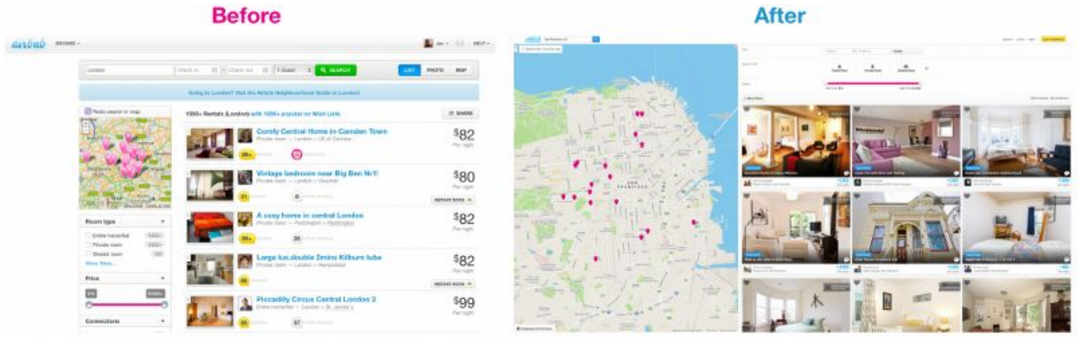
- Decision Science
  - Analytics
  - Experimentation
  - Visualization



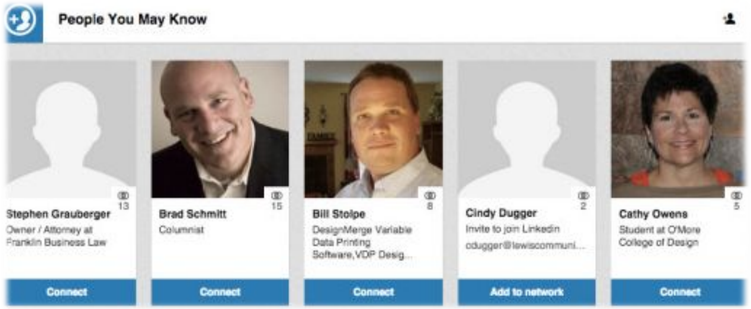
How We Reduced Food Waste and Saved Money Using Machine Learning

Soundarya Balasubramani Follow
Dec 28, 2018 · 6 min read

Experiments at AirBnb

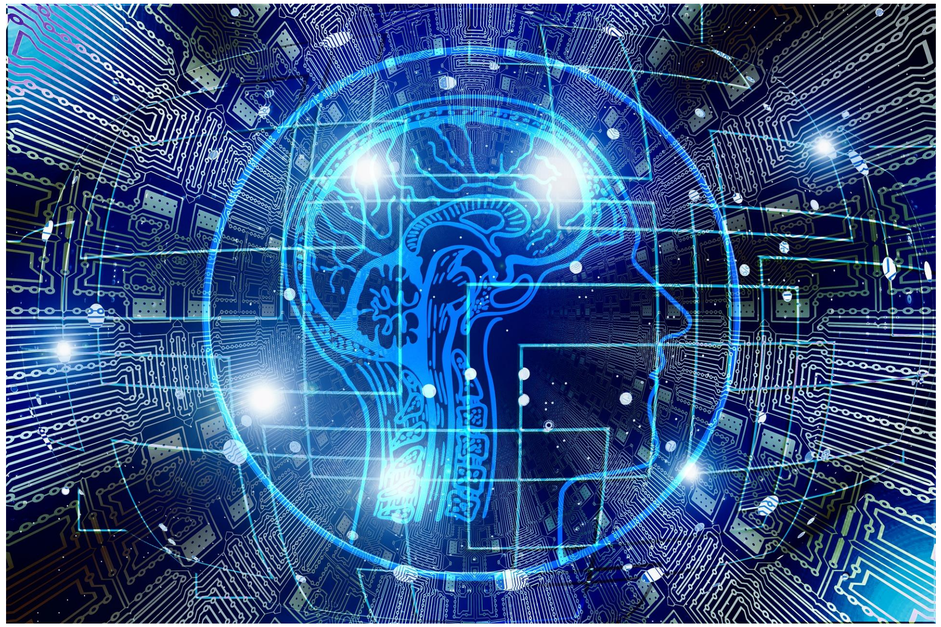


LinkedIn's People You May Know recommender



- Data Product
  - Data is core to the product, model output provides direct value to user
  - Role focused on deploying model

IT CAN BE HARD TO KNOW HOW TO EVEN GET STARTED



Smart individuals with the right skills

The Gap

- Tools
- Evidence
- Team
- Pace

High impact teams

The Gap

- Tools
- Evidence
- Team
- Pace

The Gap

Tools

Evidence

Team

Pace

Learn industry-standard tools, not just research tools

- Python, not MATLAB or R

The Gap

Tools

Evidence

Team

Pace

Hiring teams want to see that you ***have*** learned something, not just that you *can*.

- Build small projects with industry standard tools with a strong use case.

The Gap

Tools

Evidence

Team

Pace

Work as collaboratively as possible, emphasize work done on teams, code written in teams.

- Emphasize work done on teams, code written on teams.
- Ask questions, ask for help.

The Gap

Tools

Evidence

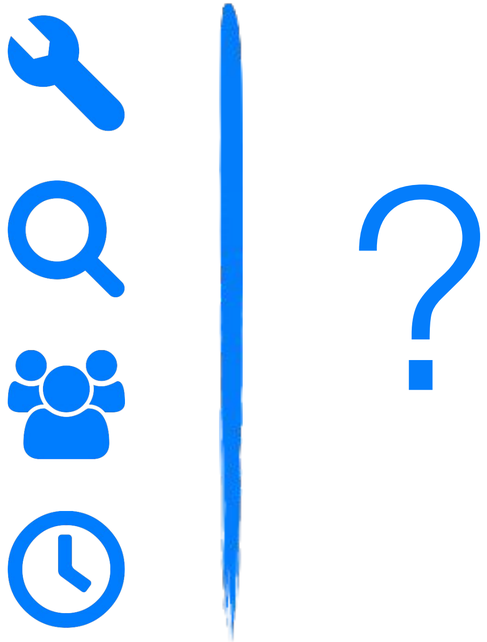
Team

Pace

Agile development — can you get something done on a fast timescale?

The Gap

Smart individuals with the right skills

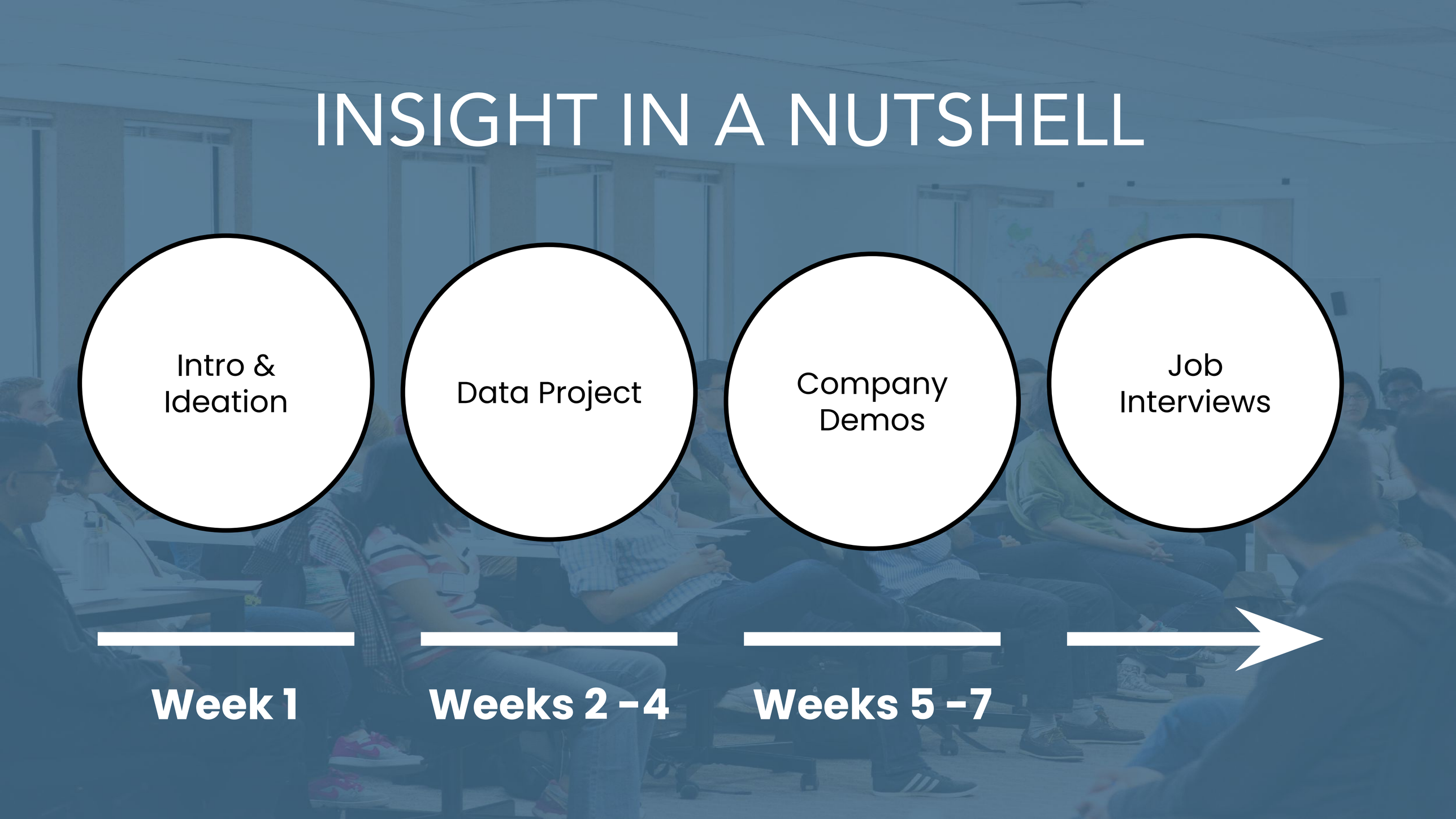


?

High impact teams


Smart individuals with the right skills
INSIGHT
High impact teams
7 Weeks
Full-time
Pay only if you get the job

INSIGHT IN A NUTSHELL



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Project-based Learning

WHY

- Show teams your full potential

WHAT

- Learn skills in a cutting-edge area
- Build your portfolio with highly-demanded technologies

HOW

- Actively learn by building
- Gain hands on experience with guidance from industry experts

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Company Visits & Demos

WHY

- Meet the team members you'd work with
- Present to the teams that fit you

WHAT

- Over 38% of demos lead to an interview
- **3x higher for Fellows** than traditional applications *

HOW

- Get your foot in the door with the hiring manager
- Guidance on presenting to hiring managers, and prep for each company

* Source: *Jobvite 2019 Recruiting Funnel Benchmark Report*

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Interview Preparation & Coaching

WHY

- Interviews naturally have noise
- Interviews require deliberate and customized practice

WHAT

- Insight Fellows **get jobs 40% faster** with personalized support, with up to **24% higher salaries** than comparable professionals

HOW

- Personalized preparation for your interviews
- One-on-one mock interviews for each company to help you show the relevant skills
- Negotiation support for offers

Pay-it-Forward Network

INSIGHT

3500+
DATA SCIENTISTS & ENGINEERS

Fellows create a lifelong network

- Past Fellows mentor new Fellows, just as the previous Fellows did for them
- The Fellow community accelerates learning through participation on our exclusive knowledge platform
- Deferred membership dues enable the program for future Fellows

Upcoming Application Deadlines

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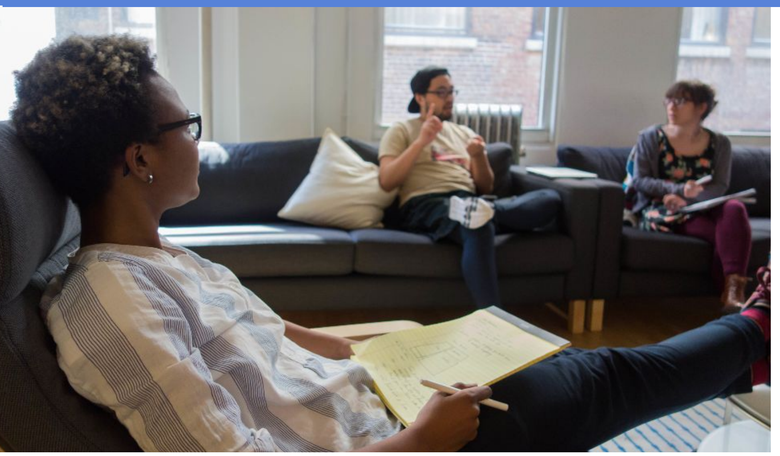

To apply, visit:
apply.insightfellows.com

Early application deadline:
October 12

Main application deadline:
November 2

Next session begins:
Tuesday, January 19, 2021

Cameron Jones - Ecology and animal behavior

linkedin.com/in/camantis/

Eric Epstein - Philosophy

have a case where the classically valid argument $\alpha_1, \ldots, \alpha_n \vDash \theta$ fails to preserve truth.

More generally, we get logical exceptions precisely in the cases of loops that make claims that are entailed by the untruth (and 'unfalsity') of the sentence in question.

2.1 Which Logic is Correct?

What follows for the question of which logic is correct? For simplicity, let us again focus on the case of propositional logic. The upshot of the above proposition is that if we insist that logically valid rules and principles hold strictly—i.e. without exception—then there are almost none of these. More precisely, the only logically valid arguments will be those that are (in one of two ways) vacuously truth preserving.

On the other hand, there remains a natural sense in which classical logic is correct, despite the exceptions. For all of these involved sentences, such as λ, whose

[11] Ultimately, loops must be understood as sets rather than single sentences, e.g. $\{\alpha, \beta\}$ where $\alpha = T c_\beta$ and $\beta = \neg T c_\alpha$: see definition 3 of the appendix. For the time being I continue to talk about single sentences as loops—a way of talking is compatible with the more general one, for to say that a single sentence γ is a loop would simply be shorthand for the claim that $\{\gamma\}$ is.

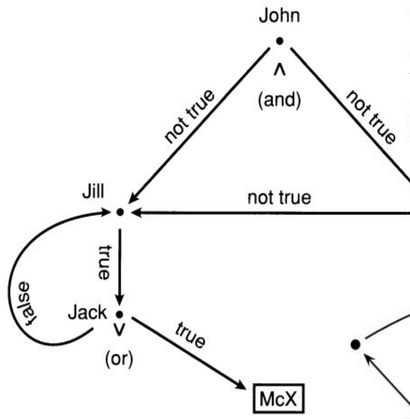

Figure 1

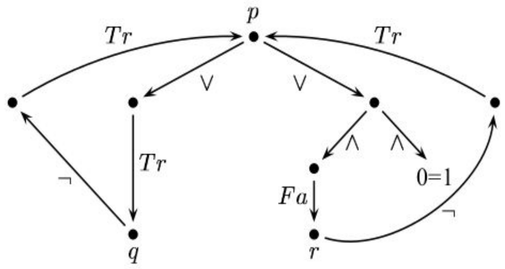

Figure 4

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Allison Kelly - Public Policy and Management

linkedin.com/in/allisonckelly

Isabel Urrutia - Math, Environment & Resource Studies, Human Geography

linkedin.com/in/isabel-urrutia/

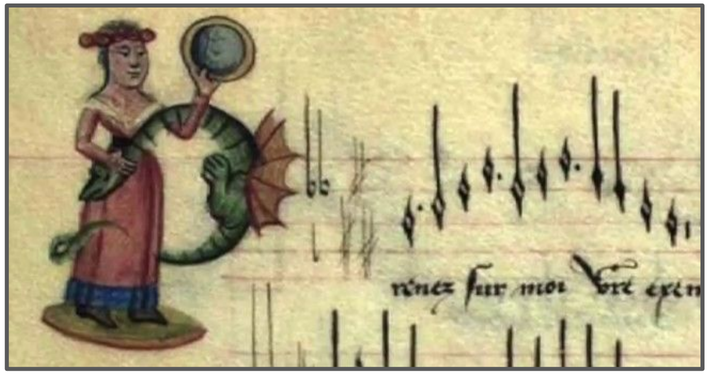
CoffeeMeetsBagel

Universidad Nacional Autónoma de México

University of Waterloo

University of Toronto

Will Watson - Historical Musicology



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Questions?

Learn more at:
insightfellows.com

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or email us: info@insightfellows.com

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