Careers in Data for Psychologists and Neuroscientists

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Gennady Erlikhman
Program Director, Data Science
Los Angeles

[Links to LinkedIn and email]

BA Philosophy and Cognitive Science

PhD Cognitive Psych
Overview

1. What kind of careers exist in data?
2. What are the different roles and responsibilities?
4. Other Industry Examples
5. What does it take to get a job in this field?
6. Insight Data Science and Transitions
Why increase in interest in data?

- Information Explosion & Big Data
  - People were ready to share information
  - We had means of sharing the information
- Data Driven Decisions
  - Not taking decisions based on “gut”
  - Better understanding of users
  - Personalized services: Recommendations
  - Driving business through analytics
- Technology Advancements
What kinds of careers exist in data?
Different roles in the data space

Data Scientist / Data Analyst
- Product Analytics
- Understanding Business
- Understanding Data

Data Engineer
- Data Pipelining
- Distributed Storage
- Scalability

Data Product Manager
- Market analysis
- Future of Data products
- Business growth

ML Engineer / AI Professional
- Designing ML Algorithms
- Productionalizing ML models

Data Infrastructure Engineer / DevOps
- Designing infrastructure
- Automated deployments
- Handling Dev pipelines
Data careers by another name

UX Research
- Experimentation
- Surveys
- Focus groups
- Human-computer interaction
- Interviews

Human Factors
- Engineering / devices
- UX
Case Study: Uber Eats
Use Case:
Personalized food choices

Update the options that get shown on the app based on user preferences.
Use case: Provide personalized food choices

- Need to capture user specific data
  - Past orders by the user
  - Famous restaurants in user’s location
  - User search history, clicks??
  - Nearby Orders

- Data Product managers:
  - Identify the need for the product.
  - Work with others to define the development lifecycle.
  - Define user-testing, AB testing frameworks for the product.

- Data Scientists:
  - Analyze the User data to find out what features are important.
  - Run experiments, build out models.
  - Retrain existing models with new data.

- Data Engineer:
  - Define a pipeline to get data to scientists/analysts.
  - Automate process for new data.
  - Build a scalable data pipeline.

- DevOps engineers:
  - Maintain infrastructure for data pipelines.
  - Define development best practices.
  - Build continuous integration pipelines to auto deploy code, test them.
  - Define integration tests for the code deployed.

- Machine Learning Engineer / AI professionals:
  - Deploy models at scale.
  - Monitor models and quality of recommendation.
Data science is everywhere

**HEALTH**
- Memorial Sloan Kettering
- Flatiron Health, ZocDoc

**MEDIA**
- The New York Times
- MTV, Netflix
- Nielsen

**SOCIAL**
- Facebook
- Twitter
- LinkedIn

**FINANCE**
- Bloomberg
- Capital One Labs
- AmEx

**ADVERTISING**
- Sailthru
- Tapad
- Distillery

**ENERGY**
- Bright Power
- EnergyHub

**TRAVEL**
- AirBnB
- TripAdvisor

**APPAREL**
- Rent the Runway
- StitchFix
- Bonobos

**RETAIL**
- Etsy
- Macy’s
- Birchbox

**GOVERNMENT/NON-PROFIT**
- The City of NYC, The Census Bureau
- DataKind, Murmuration
Industry example #1: News and Media

- Types of problems you might need to solve if you worked in the news and journalism space
  - What headlines do we show each user?
  - What pictures associated with stories should we show?
  - At what time of the day should new content be released?
  - What advertisements should be with which articles?
Industry example #2: E-commerce and Retail

- Types of problems you might need to solve if you worked in e-commerce
Industry example #3: Health

- Types of problems you might need to solve if you worked in health data
Job of a scientist

- Collect and clean data
- Use programming and statistics knowledge to discriminate between signal and noise
- Convey results to the scientific community
Job of a data scientist

- Collect and clean data
- Use programming and statistics knowledge to discriminate between signal and noise
- Convey results to the team/company/investors
- Make data-informed decisions that directly impact the product and ultimately the business
How do you get these jobs?
What evidence are companies looking for?

**Product**
Identify and translate high value problems into a data problem.

**Execution**
Solve and validate their solution against problem-specific metrics.

**Communication**
Communicate their results back to stakeholders.
Product/Business Skills

- Do you know the problems that the industry is tackling?
  - Applying the relevant tools / techniques to relevant problems
- Understand how to apply the knowledge to industry problems
  - Reading industry / company blogs
  - Attending meetups
  - Knowing to ask the right questions / knowing the lingo
Technical Skills

- Experimentation / experimental design
- Statistics
- Programming (+ computer science + SQL)
- Machine learning

Knowing trade-offs of various approaches and being able to articulate them
Behavioral Skills

- Are you a strong communicator?
- How do you work with other people?
- Can you complete work on a tight deadline?
- How do you take the technical details and explain it to someone that doesn’t work in your field?
Networking

● Know the right people to talk to
  ○ Hiring Managers
  ○ Technical Recruiters

● Know how to pitch yourself
  ○ Tailor a pitch for each role you apply to.
  ○ Use career fairs effectively, don’t just drop in your resume.

● Meet the right people
  ○ Meetups
  ○ Hackathons
  ○ Fellowships/ Internships/ Bootcamps

● Know to have technical conversations (knowledge about the field will help here)
How can you showcase evidence of these skills?

● Technical
  ○ Work on side projects!
    ■ Solve a data problem that you or others are having
    ■ Use this solution to make an actionable difference
    ■ Put up the code on github

● Communication
  ○ Write up your results and process (medium or other blog post)
Industry Resumes

- Use 1 full page and *no more*
- Minimum .5” margins on all sides
- Start with a blank page -- only include what’s relevant to your next role
- Include a Header, Skills, Experience, and Education sections
- Start each bullet with a past-tense action verb
- Use consistent font style and size, indent, bullet size, date format, etc.

Writing Strong Bullets

- **Situation:** Describe what you did (context, overview)
- **Action:** Explain how you did it (the skills you used)
- **Result:** Describe why you did it / why it mattered
What to consider when looking at companies

● Size of the company
  ○ From large corporation to startup

● What type of role are you interested in?
  ○ E.g. Where in the analytics < - - - - > engineering spectrum do you want to be?
  ○ Domain / area of interest

● Culture fit

● Mentorship
Interview Process

- Preparing a good resume to get a foot in the door
- A quick phone screen to get you started (behavioral or technical)
- Coding assignment
  - Timed Coding assignment (HackerRank, Leetcode)
  - Over the phone coding
  - Take home Data Challenges
- Onsite
  - 4-6 hours
  - Mix of Behavioural, Technical and data oriented
  - Speak to multiple team members
  - Topics: Designing data platforms, Whiteboarding coding questions, Technical conversations
Most importantly, be open to rejection and learn from your mistakes
Insight Data Science
Transition to Careers in Data
An Overview of Insight

INSIGHT FELLOWS PROGRAMS
A seven-week professional training fellowship designed to be your bridge to a thriving career.

insightfellows.com
Moving from higher education to Insight

- Bridge the gap between academia and a career in data
- Program is project-based -- no classes
- Things that carry over
  - Collaboration is key
  - Mentors and alumni are there for you
- New things you’ll experience
  - Tailored experience: workshops, mock interviews, deep dives
  - Access to the Insight network
Structure of the program

INSIGHT IN A NUTSHELL

- **INTRO WEEK**
  - WEEK 1

- **DATA PROJECT**
  - WEEK 2-4

- **COMPANY VISITS**
  - WEEK 5-7

- **JOB INTERVIEWS**
3500+ Insight Fellows at

airbnb  amazon  facebook  intuit  nielsen  Pinterest  reddit  salesforce

SAMBA TV  Square  VECTRA  wayfair  videoamp  23andMe

AMERICAN EXPRESS  ANHEUSER-BUSCH  bitcoin  Blackstone  BOSCH  CLEARBANC

CVS Health  Disney  FOURSQUARE  GOODYEAR  gsk  IQT

instacart  Johnson & Johnson  macy's  MONERO  NEW YORK LIFE  patientslikeme

PayPal  ProtonMail  SECOND MEASURE  SQUARESPACE  TALA  Vanguard  yelp
Admissions process at Insight

Step 1
Apply today and mention this info-session

Step 2 (depending on program)
15 minute initial interview or Coding Challenge

Step 3
30-minute video call with our team

Application Deadline: Monday, July 20
Session Start Date: September 14
How to contact me

Gennady Erlikhman

gennady@insightdata.com