Taking the Leap and Landing Gracefully in Industry

Nebraska R-User Group

January 27, 2026

Didn't cover what you hoped? Reach out!


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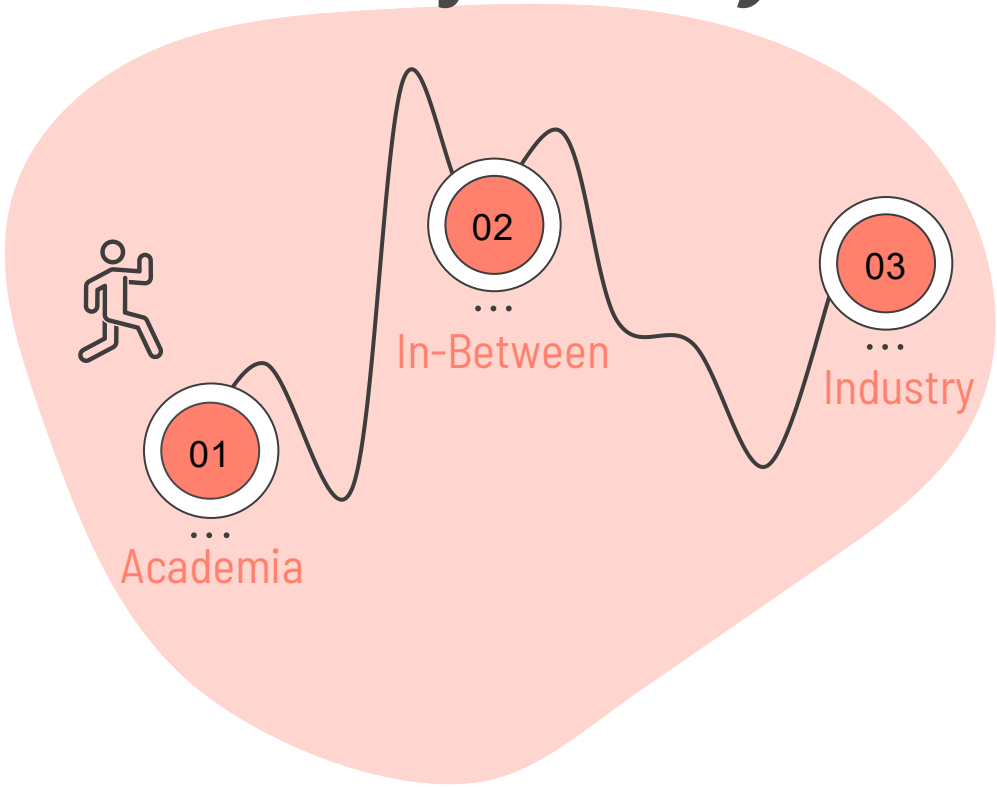
www.linkedin.com/in/brandipessman


quantumworkplace.com/about/careers

What's your *why*?



Lesson 1:

Give yourself time to understand your “why”

A little about me

North Central College

- Started in Actuarial Science
- Finished in Biology
- Fell in love with research

University of Nebraska

- Explored being a professor
- Explored science writing/journalism
- Found data science

Research focus: the effects of vibratory noise in cities on spider senses and behavior

The Next Challenge:

Translating your experience into one page that invites a conversation

This will not be a perfect example!

Brandi Pessman, Ph.D.

Data Scientist | 6+ years of experience | Statistics, Visualization, Remote Computing

From spider webs to crocheting to coding, I'm drawn to patterns – now I weave data into stories that inform and innovate.

bjpessman@gmail.com (815)-281-1464 brandipessman https://github.com/brandipessman

EDUCATION

Ph.D. in Biology, University of Nebraska-Lincoln, Lincoln, Nebraska, 2024
Recipient of the prestigious National Science Foundation Graduate Research Fellowship (GRFP)
Graduate of the Year in Animal Systems
Coursework: Git Version Control and Data Science in R, Ecological Statistics, Mathematical Models in Biology

B.S. in Biology (Minors in Math, Chemistry), North Central College, Naperville, Illinois, 2019
Summa Cum Laude
Biology Major of the Year

SKILLS *See portfolio for skill application https://brandipessman.github.io/DataSciencePortfolio/*

Languages: **R** (6 years), **Python** (1 year), **SQL** (1 year), **Unix** (2 years), **Git** (4 Years)

Statistical Methods: Generalized Linear Models (GLM), Generalized Additive Models (GAM), Mixed-Effect Models (LMM, GLMM), Regressions (Linear, Logistic), Model Selection (AIC), Time Series, Survival Analysis, Geospatial Analysis, Dimensionality Reductions (PCA), Machine Learning

Computing: Open Science Grid David Swanson Award for High Throughput Computing, 2025

Communication: **Science Writing**: Envirobites, 32 total monthly articles, 2020-2023
Presentation Awards: Oral Presentation Award, International Sound and Vibration Conference, 2023
Poster Presentation Award, International Animal Behavior Conference, 2022
Mentorship: Mentored graduate students in statistical modeling and data visualization, 2023-present
Coordination: Consulted with property owners to maintain access to research field sites, 2020-2023
Teaching: Lab Instructor for Introductory Biology, 192 students across 8 sections, 2019 - 2022

EXPERIENCE

Postdoctoral Researcher and Data Scientist, University of Nebraska-Lincoln — June 2024 - Present

- Designed a scalable pipeline using remote high-throughput computing to process 25+ TB of unstructured video data, increasing computing efficiency by 432% [**HTCondor**, **OSPool, Python**].
- Leveraged machine learning tools to track spider leg motion via computer-generated pose estimations to support large-scale predictive analytics in collaboration with a cross-functional team [**DeepLabCut, Python**].
- Established a relational database for structured survey data, executing queries and performing statistical analysis to uncover trends from participant outcomes in science communication training [**SQL, PostgreSQL, R**].

Graduate Student and Project Leader, University of Nebraska-Lincoln — August 2019 - May 2024

- Performed geospatial analysis and predictive analytics, integrating remotely sensed and field-collected datasets to predict environmental drivers of population dynamics [Published] [**R, QGIS**].
- Designed end-to-end workflows to extract, wrangle, and analyze acoustic metrics (295 CSVs, 5M+ rows) from 8880 hours of unstructured audio files to evaluate spatial-temporal noise variation [Published] [**R, Raven Pro**].
- Innovated novel signal processing techniques and produced statistical models to measure frequency-dependent energy loss across biological materials to uncover patterns in vibrational data [Published: Current Biology, Featured: The New York Times, The Smithsonian] **[R, Audacity].**

CERTIFICATIONS

Data Analytics | Google Data Analytics — Ongoing
Databricks | Databricks Fundamentals Accreditation | Databricks Academy — 2025
SQL | Relational Databases and SQL Course Completion | Stanford University, Remote — 2025
Python | 100 Days of Code: The Complete Python Pro Bootcamp | Udemy, Remote — 2024
High-Throughput Computing | Open Science Grid HTC User School | University of Wisconsin, Madison — 2023

Yes, academia counts for relevant skills!

Key words; breadth

Make it personal!

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Credibility: major awards; relevant coursework

Use common words where possible, unless the award is searchable online

R/Python: Fluency in one!

Portfolio, portfolio, portfolio - they look!

Ability to write simple SQL is essential; you'll learn fast on the job

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Communication is HUGE! Add any evidence of explaining concepts to people not in your field

I never felt like my job titles accurately reflected my responsibilities

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Technical depth: complex pipelines and messy data
Ownership: your role and innovations
Credibility: evidence of your work available
Methods, scale, outcomes, key words

This section is HARD
Walk the line of talking big picture (where translation occurs) and talking details (that build credibility and make it personalized)

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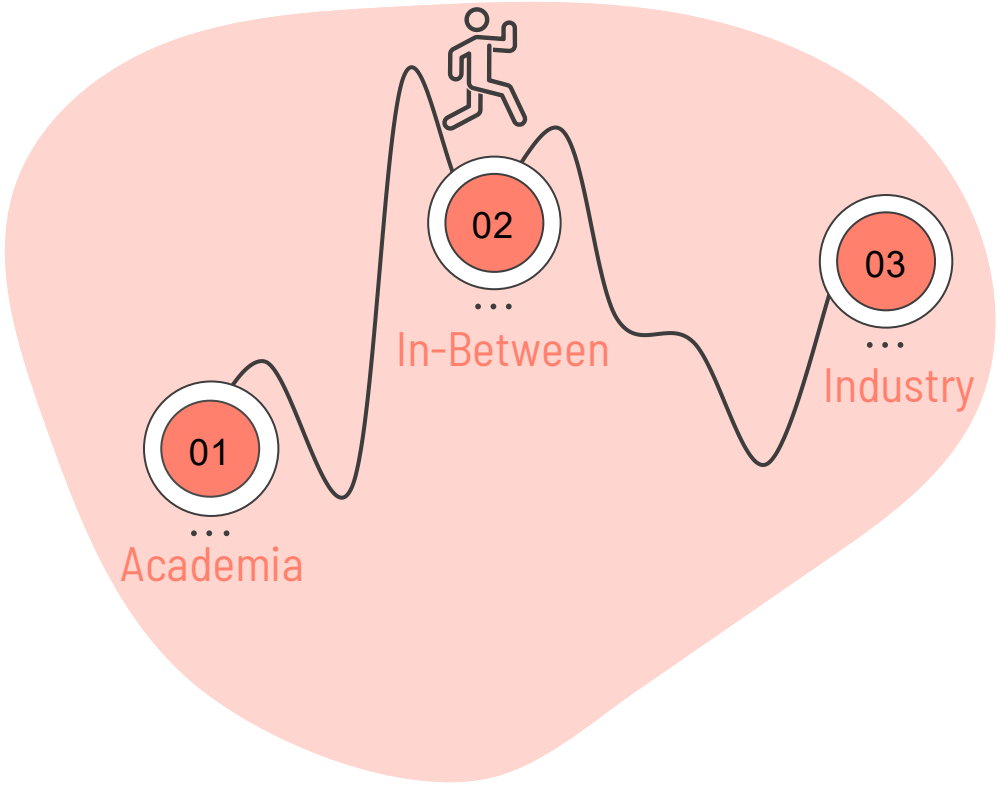
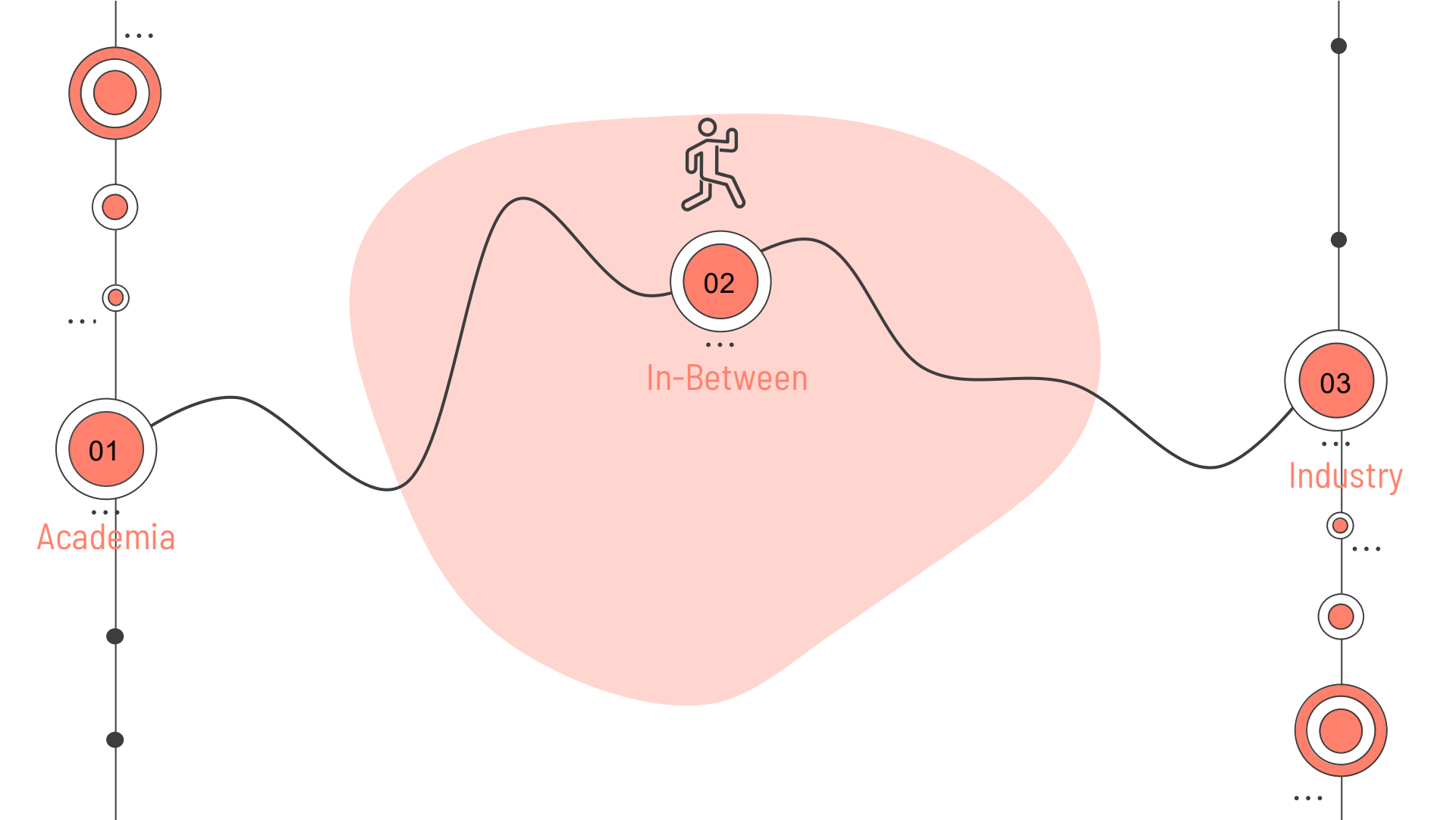
This section is all about credibility; demonstrate what formal sources you've learned from

Lesson 2:

AI can help you edit, not write; make it personal!


02
03
01
In-Between
Industry
Academia


01
Academia
02
In-Between
03
Industry

Find a strategy that works for you!

Started Applying  *(Website)*

First Interview

Started at QW!

Feb — Mar — Apr — May — Jun — Jul

20 Applications + Burnout

Lesson 3:

Target your efforts; burnout can happen fast.

Filter your search

Financial

Fraud detection, trading algorithms, risk management, market trend prediction, etc.

Health Care/Medical

Analyze complex patient, clinical, and operational data, predict diseases, personalize treatments, etc.

Product

Analyze product performance, build chatbots, track user behavior, measure business impact, etc.

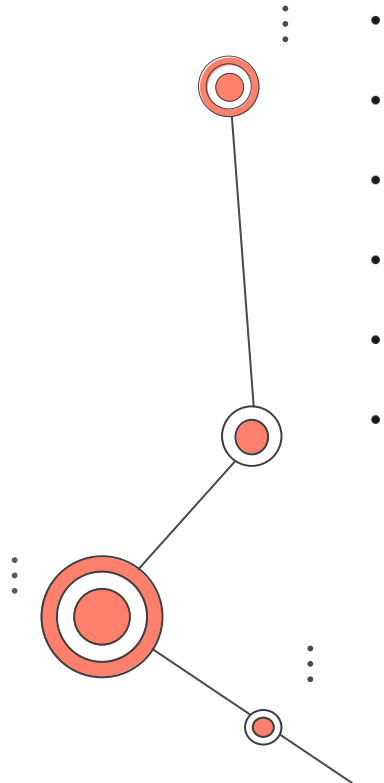
Academic

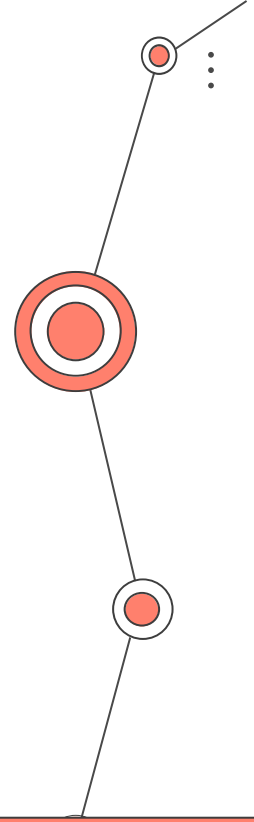
Provide statistical and data workflow assistance for researchers, bridging theory and application in areas like AI and big data

Non-Negotiables

Research and creative problem-solving

- Collaborate across teams to define and measure key metrics, design experiments, and uncover insights that inform strategic decisions
- Build models and analytical frameworks to support product, marketing, platform, or finance initiatives
- Develop tools, datasets, and systems that enable others to work with data more efficiently and rigorously
- Own complex data projects end-to-end—from problem scoping to solution delivery
- Champion data quality, accessibility, and the democratization of data across the organization
- Partner with Product, Engineering, Design, Research, Sales, Marketing, or Finance to drive impact



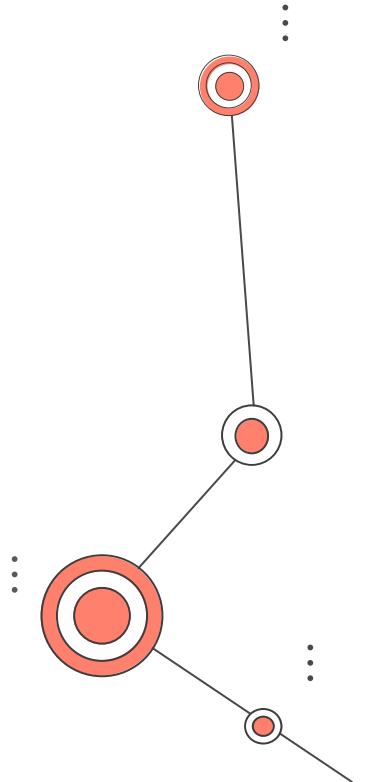


Non-Negotiables

Ownership and independence

Non-Negotiables

Research and creative problem-solving



You Will:
Drive Product Innovation | Develop cutting-edge solutions using machine learning, statistics, and probabilistic methods within cross-functional product teams.

Operationalize Analytics | Build and maintain robust machine learning pipelines supporting continuous integration and continuous delivery.

Experiment & Validate | Design and execute rigorous experiments (e.g., A/B tests) to validate hypotheses and refine predictive models.

Ensure Data Quality | Clean, preprocess, and ensure the accuracy and completeness of our data sets.

Stay Ahead | Keep up-to-date with emerging trends, technologies, and methodologies in data science and analytics.

Collaborate & Communicate | Translate complex technical concepts into clear insights for non-technical stakeholders, influencing decisions across the company.

You Have:
2-5 years of experience as a Data Scientist, Data Science Analyst, or in a similar analytical role.

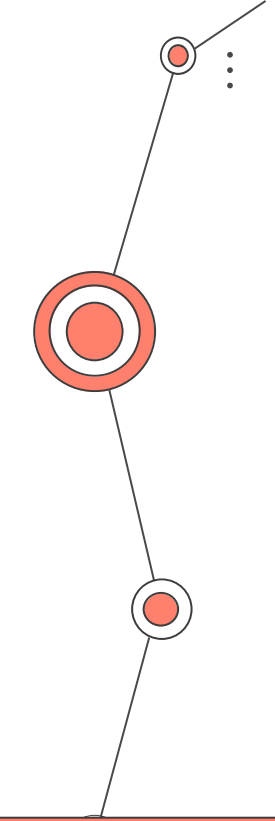
Must be legally authorized to work in the United States without employer sponsorship, now or in the future.

A proactive mindset: You own outcomes, thrive in ambiguity, and find creative paths forward.

Scientific thinking: You instinctively apply the scientific method - formulating, testing, and refining hypotheses to enhance our products.

Exceptional interpersonal skills: You're skilled at collaborating cross-functionally and communicating insights clearly to diverse audiences.

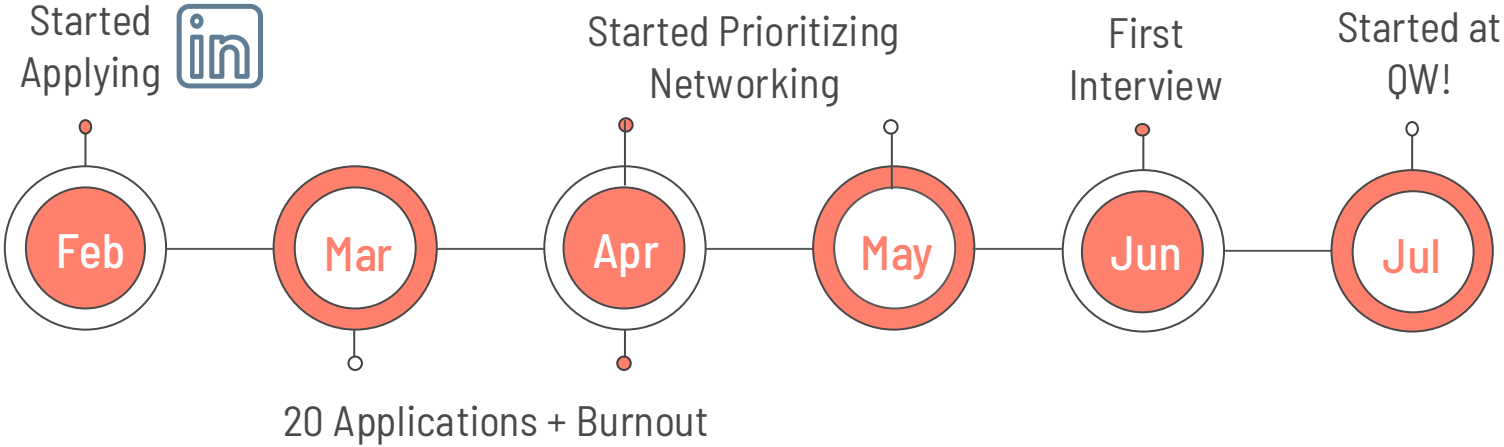
Proficiency with SQL and programming languages such as Python or R.



Non-Negotiables

Ownership and independence

Find a strategy that works for you!



Lesson 4:

Network, network, network; it's absolutely essential

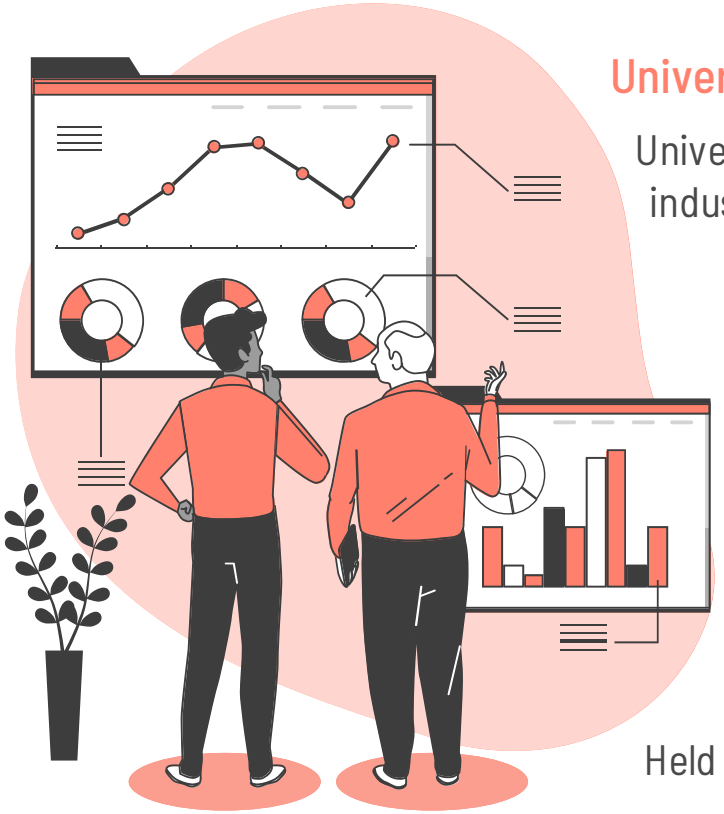
Networking can be HARD

Professors

Who taught you R/Python, Stats, Data Analysis, etc.

Seminar Speakers

Sign up to meet one-on-one with seminar speakers



University Talks

University-held industry talks

Conferences

Especially industry conferences

Job Fairs

Held locally (university/city) and remotely

Networking for Introverts

Have Courage

20 seconds of insane courage – We Bought a Zoo

...

Prepare Questions

Have and practice questions to get the conversation going

...

Reach Out

Keep in touch to keep the conversation going

...

Industry Conference Attendee

What brought you to the conference today?

Seminar Speaker

Did you ever consider different career paths?

Academic Conference

Advertise you are looking for data science connections or find talks using skills you want to learn (e.g., machine learning).

So you got an interview

The Phone Interview

Usually with HR for 15-20 mins
Basic requirements check
Why do you want to work there?

Manager Interview

An hour or so with the manager
Skill fit check
Do your research and practice questions

Team Interview

1+ hours with team members
Culture fit check
More about soft skills

Never be surprised by the next step and timeline!

Lesson 5:

Craft questions that are targeted and researched

Do you have any questions for us?

Has the recent CEO transition brought any new priorities or initiatives that impact the role of data science in product development?

Where do you see the role of LLMs evolving across your services in the next year or two?

Given that you provide services for patients, surgeons, and their general practitioners, how do you prioritize research and tasks?

You got the job!

Let's talk cross-functional teams

Each of our teams has:

- A product manager
- A web designer
- A data engineer
- 2-3 developers
- A quality analyst
- A data scientist

Scheduled Meetings

Daily

Team check-in

Weekly

Data science check-in
Manager check-in
Product/development check-in

Monthly

Longer meeting with manager
Alignment with internal stakeholders
All-company check-ins

Quarterly

Performance reviews

Projects

Power BI Dashboards

For team, internal stakeholders, or customers to track user behavior

Evaluating and Maintaining AI Features

Build or apply evaluation metrics and update AI models with new releases

Building In-Product Tools

Models or AI features used by customers

Product Change Impact

How do updates impact usage?

Experiments

A/B testing product changes

The Tools I Use

1. Slack/Zoom/Outlook

Communication

2. Asana

Task management

3. Microsoft SQL Server

Database queries

4. Visual Studio

Python coding studio

5. Power BI

Dynamic dashboards

6. R Studio

Visualization and stats

7. Heap

Click data

8. Docker

Build virtual environments

9. Postman

Production code testing

What's so different?

- Work is very connected to team and organizational goals. How does your proposed work align?
- Your insights lead the team
- Pivots happen quickly
- Results needed fast
- Meeting with customers
- Cross-functional work

Things I wish I knew

- **Organizational Key Result (OKR)**
  And other business talk
- **Embeddings and Semantic Similarity**
- **AI Evaluation Metrics**
- **Retrieval Augmented Generation**
  RAG Chatbots
- **Hugging Face**
- **Structuring Data for Dynamic Dashboards**

Thanks!

Do you have any questions?

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