

# Robyn Rap

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Denver, CO

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## Relevant Experience

### **Director of Data Science. Indeed. January 2023 - Present.**

Oversee five managers and one principal lead with a total of 30 Data and Product Scientists across the Job Seeker organization's Marketplace Platform team, which includes the core recommendations and search ranking algorithm; sponsored auction; aggregation; and trust and safety teams. Serve as budget approver for four multimillion dollar business units.

### **Senior Data/Product Science Manager. Indeed. March 2021 - December 2022.**

Oversee three managers and two technical leads with a total of 15 Data and Product Scientists across the Job Seeker organization's core search matching/ranking algorithm, sponsored auction, and metadata teams. Drive headcount and hiring strategy. Serve as budget approver for two multimillion dollar business units.

- Improved relevance of over 5.65% of query volume for 220 million job seekers by validating A/B testing results through innovative offline evaluation model.
- Identified thousands of new metadata attributes in ten new international markets by introducing a new deep learning machine learning workflow to the Metadata team.
- Oversaw transition to innovative new business model which involved novel adjustments to our sponsored auction.
- Established Marketplace Experimentation, Relevance Measurement, Homepage Recommendations teams after writing successful investment proposals and driving alignment across key stakeholders.
- Successfully prevented attrition during re-organization of product teams through regular one-on-ones and coaching sessions.
- Received a 100% positive review rate from direct reports for three years straight, including throughout the 2020 COVID-19 pandemic.
- Led teams that won the 2018, 2019, and 2020 Indeed Engineering Innovation Awards.
- Successfully promoted five direct reports, three skip level reports.

### **Data/Product Science Manager. Indeed. February 2019 - February 2021.**

Coached team of 5 Data and Product Scientists on analyses and machine learning models across Job Search Front End, Search Matching, Ranking/Relevance, and Taxonomy teams. Oversaw improvements to core matching and ranking utility functions. Coordinated A/B testing efforts across multiple product teams.

- Reduced the effort it takes to identify occupations and attributes by roughly 20x by introducing deep learning (BERT, NER) models to Indeed's Taxonomy/Metadata team.
- Improved major KPIs by 20% globally by overseeing the transition to an innovative new utility function for our Ranking algorithm.
- Fundamentally revamped Indeed's core product offering, resulting in over \$25M incremental revenue by overseeing A/B testing and analyses; presenting results and recommendations to Senior Leadership Team; and driving alignment by presenting at Job Seeker All Hands.
- Improved A/B testing culture and infrastructure by advising on improvements to internal A/B testing platform including power analyses, multivariate A/B tests, holdout groups, and causal inference challenges.
- Improved response rate on key job seeker survey by 45 x by leading an overhaul of survey sampling and reducing response bias for +220M users.
- Established metrics as Job Seeker Tier 1 goals by conducting thorough analyses of key indicators of Job Seeker relevance and feedback to improve measurement validity.
- Enabled better informed product decisions and improved experimentation culture by introducing site slowdown experiments, blackout tests, multivariate testing, marketplace testing, and holdout groups to Job Seeker Product teams

### **Product Science Technical Lead. Indeed. June 2017 - January 2019.**

Collaborated with multiple Product, Engineering, and UX teams to identify innovative and impactful product improvements through in-depth analyses. Served as Technical Lead for Job Search UI Lab, which designs and analyzes multivariate A/B tests to inform user experience. Coached 5 Product Scientists and 1 UX Quantitative Researcher.

- Increased SERP KPIs by 1% worldwide for +220M users through a successful partnership with UX, Product, and Engineering to run 60+ multivariate A/B tests with 500+ treatment groups in support of a holistic redesign of Job Search UX.
- Established new Product Science team by building onboarding, interviewing, and goal setting processes.

- Saved Indeed an estimated \$3.2M in 2018 by developing a novel forecasting methodology to inform Sales headcount planning company-wide
- Designed and taught workshops on A/B testing and survey methods to 300+ employees.
- Overturned widely-held assumption about site latency through a series of A/B tests and Engineering talks, which has led to more informed Product tradeoffs and millions of dollars of reallocated resources
- Two time winner of the Indeed Technical Writing Award for documentation

**Senior Business Intelligence Analyst. Indeed. January 2016 - June 2017.**

*Developed interactive dashboards and analyses across Indeed's Client Services, Marketing, Finance, HR, and Sales departments. Made recommendations to Senior Leadership Team.*

- Informed a major re-organization of Indeed's Sales department through a thorough analysis of gaps in lead generation coverage.
- Informed Indeed's multimillion dollar real estate decisions through highly accurate capacity planning model
- Enabled better client outreach by identifying tens of thousands of employers whose job posts were underperforming using outlier detection
- Developed a comprehensive new hire training and mentoring program, since undergone by over 100+ analysts
- Created interview modules, attended university recruiting events, and interviewed dozens of candidates, contributing to the growth of the team from 6 to 60+ analysts in 1 year

**Graduate Research Assistant. The University of Texas at Austin. August 2011 - December 2015.**

*Designed and conducted self-directed research on social capital, social networks, and pro-social behaviors. Taught Introduction to Sociology, Race and Education, and Sociology of Philanthropy.*

- Co-published 2 peer-reviewed academic articles on survey design and bias
- Finalist for the William S. Livingston Outstanding Teaching Award

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## **Presentations and Panels**

- "How I learned to stop worrying and love a mixed methods approach in recommendation systems." RecSys 2022. Seattle, WA.
- "Establishing experimentation as a core part of your project workflow" Lead Developer. 23 September 2020.
- "Why is it so dang hard to make friends?" Nerd Nite Austin. 14 August 2019.
- "The Job Search UI Lab: Multivariate Experimentation and Holistic UX Design" with Katie Hicks. Recruit Holdings Engine Forum. 8 July 2019.
- "Fishing a Manager to Teach: How Teaching Brings about Organizational Change." Indeed Tech Talk. 1 March 2018.
- "The Informal Association Landscape" with Pamela Paxton. American Sociological Association Annual Meeting, Session on Voluntary and Non-Profit Organizations August 2014
- "Which Niche? Agency and Homophily in Online Voluntary Organizations." American Sociological Association Annual Meeting, Session on Internet and Society. August 2013

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## **Publications**

- "Need help motivating your team? Try the Motivation Matrix." 26 July 2020.
- "On Managing Conflict at Work." 2 June 2020.
- "Want to code as an Engineering Manager? Time to find a unicorn." 15 February 2020.
- "Time-Tested: 7 Ways to Improve Velocity When A/B Testing a New UX." 23 August 2019.
- "Qualitative + Quantitative: How Qualitative Methods Support Better Data Science." 23 April 2018.
- "Transitioning from Academia to Industry." 19 December 2017.

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## **Academic Publications**

- "How Accurate Are Self-Reports of Voluntary Association Memberships?" with Pam Paxton. *Sociological Methods & Research*. October 2018.
  - "Does the standard voluntary association question capture informal associations?" with Pam Paxton. *Social Science Research*. 2016.
  - "All the Lonely People?: How Living and Working Alone Shapes Our Social Lives." Dissertation. 2016.
  - "Meeting Up: Friendship and Voluntary Organizations in the Internet Age" Thesis. 2013.
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## **Education**

Ph.D. Sociology. The University of Texas at Austin. August 2016.

M.A. Sociology. The University of Texas at Austin. May 2013.

B.A. Political Science. B.A. Spanish Linguistics. Arizona State University. May 2011. Summa cum laude.

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## **Professional Development**

Advanced Business Strategy: Gaining a Competitive Edge. Harvard Extension School. October 2020.

Women in Leadership. Harvard Extension School. September - October 2020.

Business Strategy for Managers. Harvard Extension School. August 2020.

Common Mistakes in Statistics. University of Texas at Austin. May 2018.

Presentation and Visual Storytelling. Duarte. February 2018.

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## **Selected Skills**

Python. R. SQL/NoSQL. Git. Supervised Learning (OLS, Logistic regression, Classification, Hierarchical Linear Models, Neural Networks, TF-IDF). K-means. Survey design and measurement. Multivariate A/B Tests. Presenting.

Hiring/Interviewing. Writing. Spanish (Advanced). Japanese (Beginner). Tamil (Beginner). Painting. Drawing. Sculpture.

Improv. Running.