

From the lab to a career in data science

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Nature Reviews Psychology is interviewing individuals with doctoral degrees in psychology who pursued non-academic careers. We spoke with Teon Brooks about his journey from a postdoctoral scholar to a data science consultant.

What is your current position?

I currently lead my own consulting practice, where I work with companies and universities to build tools, curricula and training related to data science, machine learning and artificial intelligence. Most recently, I worked with a company to develop and execute a programme to teach the fundamentals of machine learning and large language models and use their open-source large language model tools to build new applications to serve a social good.

At the same time, I'm bootstrapping and leading a new nonprofit organization called the [Gotham Data Clinic](#). We focus on responsible computational and data science education through research, workshops, courses and training, all in the public interest.

What was the major deciding factor for you in turning to a non-academic career?

During my academic career, I got deeply involved in research software engineering through contributions to open-source projects and community-driven projects. Doing so greatly boosted my understanding of research methodologies in my field and developed my technical expertise.

At the same time, I realized I had strong interests in community engagement. I spent a lot of time outside of my studies doing science outreach throughout the city and developing new learning experiences to teach cognitive science to high school and college students as well as neurotechnology enthusiasts. During my postdoc, I got involved with the March for Science in Washington, DC and served as one of the codirectors of partnerships for the national organizing committee.

I really love 'team science' and the aspects of building tools together, developing communities together and learning from one another; I think scientists do our best work when we work together. Unfortunately, research software engineering and community engagement



are not given the same weight as first-author research projects when evaluating academic productivity. I realized that if I wanted to pursue a tenure-track role, I would have to fundamentally change how I approached doing science as a career.

I found that industry data science best suited my interests in programming and data analysis; it had a healthy work-life balance, and it would give me the support to pursue my other interests. I also wanted control over where I live and the academic job market does not always afford that luxury.

Is there anything you miss about academia? Have you found analogues for those things in your current position?

I do miss some of the social aspects of academia. I miss seminars and the post-seminar discussions. I also miss conferences, but mainly the smaller, single-track ones. Those were a great opportunity to go deep on a topic and learn from my peers. For larger conferences, I prefer the 'hallway-track' and catching up with colleagues from around the world.

Bluesky has become a happy analogue. I get to read what my colleagues are working on and share the things I am working on as well, both professionally and personally. It has been a great way to join a digital community of fellow scientists across many fields and different career stages.

I really do miss teaching and interacting with students. However, I have found opportunities to teach, such as some adjunct teaching of statistical programming. And while I was in my previous job, I would lead internal training in statistical programming in R and Python. With my current consulting practice, some of my work gives me the opportunity to engage with students.

How did you prepare for your job outside academia? Is there anything you didn't do that you would recommend to others?

The majority of my job searches since I left academia have been in data science. There are four core skills that are often looked for in a data scientist: applied statistical knowledge, research methodology, programming skills, and communication and/or collaboration skills.

I suggest having a digital portfolio of things you have done. It is a useful skill to share the work you have done in a way that someone outside of your discipline can understand it. You can do this by having a personal website that has a section dedicated to your projects and work.

It is also important to be technically proficient in a scripting programming language, preferably Python or R, as well as to have a strong foundation in relational databases using SQL. For me, contributing to open-source software projects for science really levelled up my programming skills, taught me how peer-review code and helped me to learn how to work on a distributed team. I recommend you get involved in a project – whether you remain in academia or move into industry – to receive hands-on experience contributing to a project through documentation, coding or collaboration. All three are crucial to maintaining a thriving software project and useful skills in alternative-academic (alt-ac) careers.

I also recommend chatting with people who left an academic role a few years ago to better understand the transition. Now that I'm seven years from my postdoc experience and more senior in my career, I have a very different understanding of what is necessary to transition from an academic role to an early-career industry role.

Did your PhD or postdoc supervisor support your goal to leave academia? Are there any concrete ways they helped with the transition, or ways you wished they had?

In my department, it felt very taboo to discuss alt-ac careers. I started my programme in 2011 and at the time there was no department-wide advisement for industry careers or any professional development discussion that wasn't related to postdocs or tenure-track jobs. We, as students, had to self-organize to share information.

I remember a meeting with my PhD advisor to talk about my career and next steps.

I brought a list of job opportunities sorted into three columns: traditional postdocs, industry postdocs and industry jobs. He only gave me feedback on the traditional postdocs. I don't know whether that was because it was the only career path he was familiar with then or he wasn't supportive of an alt-ac career.

"I recommend you [...] receive hands-on experience contributing to a project through documentation, coding or collaboration"

By contrast, my postdoc advisor was very supportive of my choice to go into industry. I had a bit of an unusual postdoc situation: I received a fellowship through the Mozilla Foundation to champion open science practices, and my academic postdoc advisor supported my work. We discussed what it would

take to pursue a professorship and one fact was very clear: given how most psychology and neuroscience departments are currently structured, there is still a great deal of emphasis on individual research programmes and much less support for researchers who are focused primarily on tool development, infrastructure and methodology. We began planning which grants I should consider applying for but I ultimately decided that I would be best suited for industry roles.

What advice do you have for someone who is looking to move out of an academic career?

If you would like to stay in academia but not in a principal investigator capacity, there has been a growth [in research software engineering roles](#). If you are like me and have found yourself interested in methodology and tool-building, this role might be suitable for your interests. Work is being done to have these be more permanent roles and less dependent on individual laboratory funding.

I think that by the end of your third year in your PhD, you probably know which career

path you would like to take. If it is an industry role, I would use that summer to come up with a game plan for the next steps. The end of the fourth year could be a great opportunity to do an internship at a company you are interested in working at.

For those who are policy-inclined, the fourth year would be a great time to explore science policy opportunities as well. The American Association for the Advancement of Science (AAAS) has a [science and technology policy fellowship](#) that can provide you with a unique perspective on how policy decisions are made, while you contribute your expertise and skills to different government agencies and congressional representatives.

Interviewed by Teresa Schubert

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Competing interests

T.S. is employed by Springer Nature, the publisher of *Nature Reviews Psychology*.