From Skills to Results: Discovering Your Versatility and Showing It

Dr. Paula Chambers @VersatilePhD
<table>
<thead>
<tr>
<th>versatile (adj.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong> Capable of doing many things competently</td>
</tr>
<tr>
<td><strong>2.</strong> Having many uses or serving many functions</td>
</tr>
<tr>
<td><strong>3.</strong> Capable of moving freely in all directions</td>
</tr>
</tbody>
</table>
“The Pipeline”
“The Leaky Pipeline”
The Branching Career Pipeline

Graduate Training

Postdoc

Other Careers

TT Prof or PI

Adjunct

Other Careers

Pipes not to scale
The Humanities Pipeline

Graduate Training → Postdoc → Other Careers

Graduate Training → Adjunct → TT Prof → Other Careers
Science, Engineering & Health (SEH) PhDs 3 years out

- Graduate Training: 35%
- For-profit businesses: 25%
- Postdoc (and other temporary academic positions): 16%
- TT Faculty: 24%
- Elsewhere (self-employed, government, non-profits)

Source: Science and Engineering Indicators, 2012, National Science Foundation, Chapter 3, "Science and Engineering Labor Force"
Now for some GOOD news

• You are not alone
• PhDs work in all sectors
• Demand for grad degrees is rising, especially STEM degrees
• Your desires may change
• You DO have marketable skills
• Non-ac careers have advantages
Non-Academic Career Advantages

- Freedom to live where you want
- Variety in what you do
- Higher income potential
- Advancement opportunity
#4 Make it Happen
Put plan into action, learn along the way, achieve goals.

#1 Know Yourself
Interests, values, skills, assets, resources, personality.

#3 Make Choices
Set goals, develop a plan, and address barriers.

#2 Explore Possibilities
Research try things out, narrow choices, and find a few that fit.

Career Development Cycle
How Versatile You Think You Are
How Versatile You Really Are
Skills developed in most PhD programs

- Research methods, study design
- Critical thinking, analysis
- Written & oral communication
- Teaching
- Organization
- Self-directed learning
Skills developed in postdoctoral study

• Even more research methods
• “Researcher” mindset and nomenclature - you learn to think like a researcher
Skills employers want more of in PhDs

Teamwork
Project Management
Oral Presentation
Delivering outcomes on time and on budget
Communicating with lay audiences

Other Desirable Skills

• Conflict resolution
• Cross-cultural communication
• Dependability
• Coaching others
• Self-motivation
• Motivating others
### Skills generally in demand

<table>
<thead>
<tr>
<th>Marketing</th>
<th>IT Networking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Media</td>
<td>Graphic Design</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>Sales</td>
</tr>
<tr>
<td>Programming</td>
<td>Business Development</td>
</tr>
</tbody>
</table>

You’re using skills in every project

Little project I did in grad school:
Served on a committee to update the Graduate Student Manual for my PhD program
Skills I used in that “little” project

• Teamwork
• Written communication
• Oral communication
• Delivering outcomes on time
• Project management/organization
• Leadership
Exercise: Which Skills Did You Use?

Get our your worksheet.

Think of a project you did.

List some skills you used, hard and soft. One skill per square.
Skills, quantified = accomplishments
<table>
<thead>
<tr>
<th>Examples of Skills &amp; Accomplishments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data analysis</strong></td>
</tr>
<tr>
<td><strong>Social Media</strong></td>
</tr>
</tbody>
</table>
Exercise: Quantify something you did

Look at the list of skills you used in that project. In the center column, “Accomplishments,” write what you did, quantifying it.

Do two or three if time permits.
From accomplishments to RESULTS

Some things we do make a difference because of a *practical result*. For example...

...did it save time?

...did it save labor?

...did it save or earn money?

...did it save or earn something else?

...did it help a group meet a goal?
Director of Development, Los Angeles Children’s Chorus (August 2004 - November 2006)

Major Gifts

- Identified and researched 45 new major gift prospects, conducted face-to-face solicitations with 30 of them and got commitments from 21.
- Re-engaged 35 lapsed major donors by conceiving and producing three donor engagement events.
- Increased total number of major donors from 22 to 78 and major gift revenue from $45,100 to $242,984 in two years.
Exercise: Accomplishments & Results

Take one accomplishment and identify a positive practical result. Write that in the third column (Results).

THEN - in the space below the table, draft a resume bullet. First word = past-tense active verb of a skill you used, such as Analyzed, Led, Wrote.
THE MASTER RESUME
How to add skills/achieve new results

• Get involved in postdoctoral affairs

• Use ingenuity & creativity to identify skill-building opportunities

• Think of ways to give PI what s/he wants while also getting something you want

• Negotiate with PI directly
Academic career skills of yesterday
Academic skills of today
<table>
<thead>
<tr>
<th>Non-Academic Careers for Humanities &amp; Social Sciences</th>
<th>Non-Academic Careers for STEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Biotechnology</td>
</tr>
<tr>
<td>Consulting</td>
<td>Consulting</td>
</tr>
<tr>
<td>E-Learning &amp; Instructional Design</td>
<td>Data Science &amp; Software Development</td>
</tr>
<tr>
<td>Finance</td>
<td>Entrepreneurship</td>
</tr>
<tr>
<td>Institutional Research</td>
<td>E-Learning &amp; Instructional Design</td>
</tr>
<tr>
<td>Government</td>
<td>Finance</td>
</tr>
<tr>
<td>Grant Writing</td>
<td>Government</td>
</tr>
<tr>
<td>K-12 Education</td>
<td>Industry</td>
</tr>
<tr>
<td>Law</td>
<td>Intellectual Property</td>
</tr>
<tr>
<td>Marketing</td>
<td>K-12 Education</td>
</tr>
<tr>
<td>Nonprofits</td>
<td>Marketing</td>
</tr>
<tr>
<td>Policy</td>
<td>Nonprofits</td>
</tr>
<tr>
<td>Program Evaluation</td>
<td>Research Administration</td>
</tr>
<tr>
<td>Research Administration</td>
<td>Science &amp; Medical Writing</td>
</tr>
<tr>
<td>Technology</td>
<td>Science Outreach</td>
</tr>
<tr>
<td>University Administration</td>
<td>Science Policy</td>
</tr>
<tr>
<td>Writing &amp; Editing</td>
<td>University Administration</td>
</tr>
</tbody>
</table>
What it is

These fields are intertwined. In pure software development, data science is at the service of a development process that results in a software product. In pure data science, one often creates software as a tool for the service of data. Tight budgets and the DIY ethos of the academy result in many graduate students and postdocs processing large amounts of data themselves, often writing custom software for that purpose. If you're doing that, you may be qualified for a career in Data Science and/or Software Development.

Starting points

Look for “Data Scientist” positions in a range of industries or settings. “Big Data” is also a popular buzzword. If your experience is more on the software side, look for “Software Developer” positions. Other positions require less technical skill and more communication skill, such as sales and client relations.

Advancement

Data scientists can move in different directions depending on their interests: they can progress in the software direction, or in the data analytics direction. Both can move up the management ladder given successful performance, good social skills and continuing professional development. Freelancing is also an option.

Disciplines

Though Computer Scientists have an obvious advantage, PhDs in all STEM disciplines can enter data science or software development, given enough practical experience during their training.

Personality and outlook
## Real-Life Examples

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Job: Applied Mathematician</td>
<td>Software Developer</td>
</tr>
<tr>
<td>First Job: Astronomer</td>
<td>Data Scientist in Finance</td>
</tr>
<tr>
<td>First Job: Evolutionary Biologist</td>
<td>Bioinformatician / Programmer</td>
</tr>
<tr>
<td>First Job: Physicist</td>
<td>Solution Engineer</td>
</tr>
<tr>
<td>First Job: Physicist</td>
<td>Data Mining Analyst</td>
</tr>
</tbody>
</table>

## Q&A: Careers In Data Science

- Long Term: Electrical Engineer becomes Trading Strategist, Software Engineer
- Long Term: Experimental Psychologist becomes Consultant, then CTO
HIRING SUCCESS STORY
Andrew Schechtman-Rook, Ph.D. Astronomy, 2013
Postdoc 2014, Data Incubator program 2014
Hired in 2014 as Data Scientist at Capital One Labs

Included here (scroll down):
Narrative, resume, cover email, CV for comparison

By all accounts, I was a good astronomer. I had a solid (though not spectacular) number of first-author papers, won several small grants and awards, and was well-respected in my department and the sub-discipline I published in. I’d even been asked if I would be interested in taking a postdoc with a leader in my field.

I mention these facts not to brag about my accomplishments, but rather to make it clear that leaving academia was my choice: the stereotype of the washed-out graduate student (or postdoc) who is only leaving academia because they can’t hack it is still prevalent in many departments. I left astronomy of my own free will, the result of several years of experience and deep consideration of the matter.
Members

Total Members  63,292

Viewing 1 - 30 of 63,292 active members

- **Caleb Robbins**
  - active 51 seconds ago

- **Paula Chambers, Founder**
  - active 2 minutes ago

- **barrie15**
  - active 5 minutes ago

- **Teodora**
  - active 6 minutes ago

- **Sarah Fritz**
  - active 13 minutes ago

- **psyche**
  - active 13 minutes ago

- **hjs22**
  - active 15 minutes ago

- **Smasr**
  - active 18 minutes ago

- **fmp2016**
  - active 22 minutes ago

- **Sankha Baran Dutta**
  - active 23 minutes ago
Supportive Discussion Forums
Jobs suitable for PhDs
Local Meetups
You are versatile!

Non-ac careers are okay!

Make a Master Resume asap!