

Your PhD — What's Next?

Stuart Hannah Fredrik Nordvall Forsberg



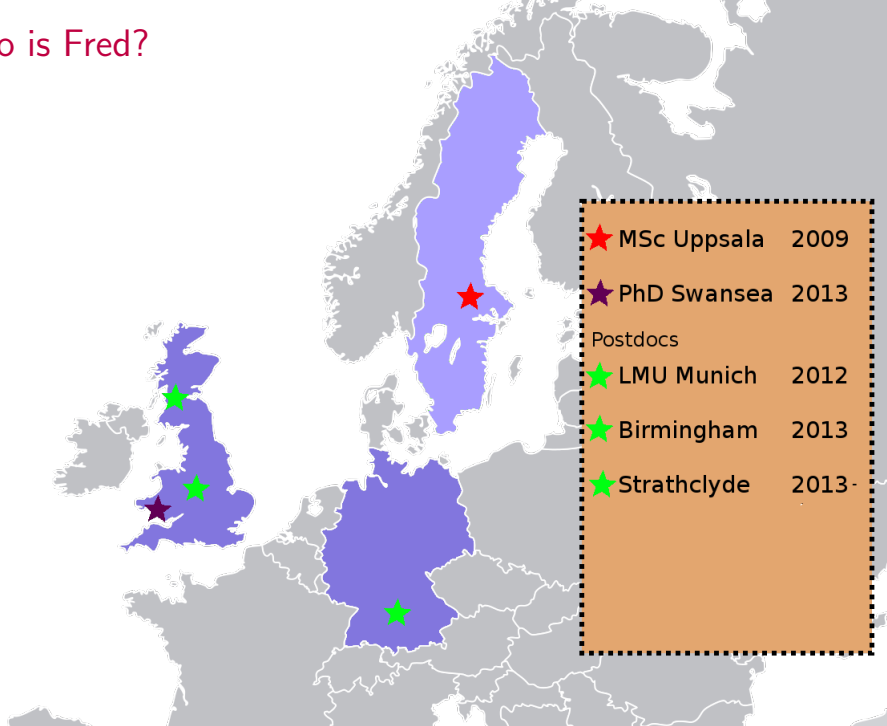
@LegoAcademics © f s o

SICSA PhD Conference, Aberdeen, 29 June 2018

Who are we?



Who is Fred?



Who is Stuart?

- ▶ Work for a sports betting startup in London
- ▶ Work in a team of about 20 people, 5 of which PhDs (mostly physics)



What's next?

- ▶ Who has thought about future career choices?

What's next?

- ▶ Who has thought about future career choices?
- ▶ Who wants to stay in academia?

What's next?

- ▶ Who has thought about future career choices?
- ▶ Who wants to stay in academia?
- ▶ Who wants to move to industry?

What's next?

- ▶ Who has thought about future career choices?
- ▶ Who wants to stay in academia?
- ▶ Who wants to move to industry?
- ▶ Who wants to go live in a cave and become one with nature?

Other career choices

Matt Might
@mattmight

Follow

Odds of becoming professor about the same as odds of becoming professional soccer player. Plan accordingly.

Many junior scientists need to take a hard look at their job ...
Permanent jobs in academia are scarce, and someone needs to let PhD students know.
nature.com

4:30 AM - 26 Oct 2017

34 Retweets 47 Likes

4 34 47

Some statistics

- ▶ Computer Science PhDs awarded in US 2017: **1,834**.
- ▶ Vacant academic CS positions in US 2017: **1,040**.

Source:  CRA Taulbee Survey.

Some statistics

- ▶ Computer Science PhDs awarded in US 2017: **1,834**.
- ▶ Vacant academic CS positions in US 2017: **1,040**.
- ▶ Computer Science PhDs awarded in US 1993:
- ▶ CS PhDs employed in academia in US 1993:

Source:  CRA Taulbee Survey.

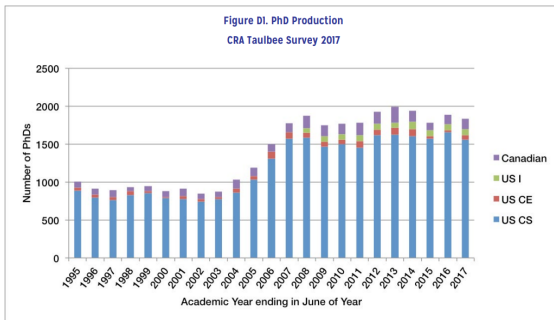
Some statistics

- ▶ Computer Science PhDs awarded in US 2017: **1,834**.
- ▶ Vacant academic CS positions in US 2017: **1,040**.
- ▶ Computer Science PhDs awarded in US 1993: **833**.
- ▶ CS PhDs employed in academia in US 1993: **304**.

Source:  CRA Taulbee Survey.

Some statistics

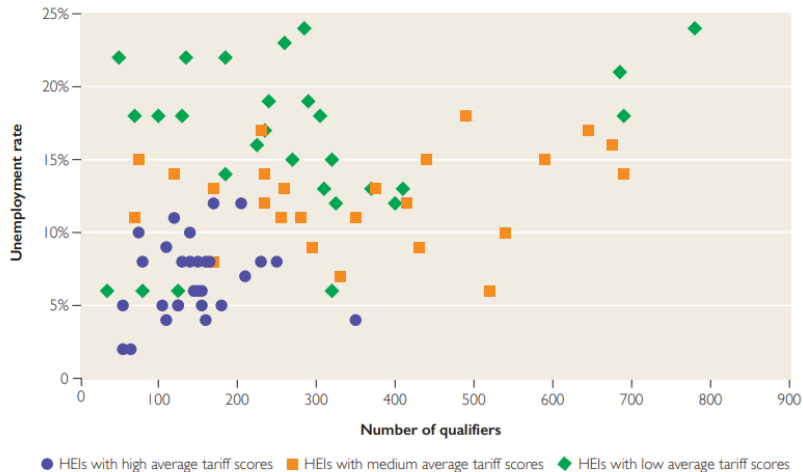
- ▶ Computer Science PhDs awarded in US 2017: **1,834**.
- ▶ Vacant academic CS positions in US 2017: **1,040**.
- ▶ Computer Science PhDs awarded in US 1993: **833**.
- ▶ CS PhDs employed in academia in US 1993: **304**.



Source:  CRA Taulbee Survey.

Statistics from the other side: Shadbolt review

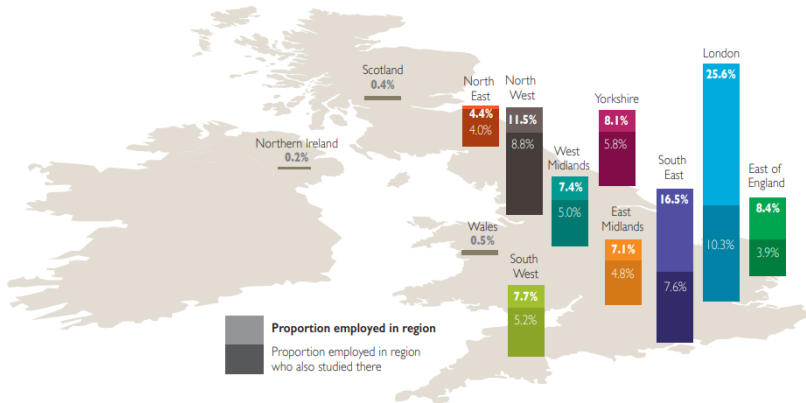
Figure 12 UK domiciled full-time first degree Computer Sciences graduates, by HEI type and unemployment rate six months after leaving HE



Source: HEFCE analysis of the HESA standard qualifications obtained population at publicly-funded English HEIs, 2011-12 to 2013-14. Graduates who subsequently provided a valid response to the DLHE survey six months after leaving HE.

Where the jobs are

Map 1 – Employment locations for UK-domiciled full-time first degree Computer Sciences graduates six months after leaving HE: from publicly-funded English HEIs, 2011-12 – 2013-14



Source: HEFCE analysis of the HESA standard qualifications obtained population, 2011-12 to 2013-14. Graduates who subsequently provided a valid response to the Destinations of Leavers from Higher Education (DLHE) six months after leaving HE.

Why and where to get a job

Why work in industry?



- ▶ Easier to manage work life balance
- ▶ More career paths are open
- ▶ More flexibility about where to live
- ▶ Usually more collaborative

Why not work in industry?

- ▶ Usually longer set work hours and more time commitments
- ▶ Less freedom of direction
- ▶ May have out of hours/on-call work



Why work in academia?



- ▶ You are already doing it!
- ▶ More responsibility; supervising students, serving the community
- ▶ Lecturing job down the line (or not)

Why not work in academia?

Again, similar to doing a PhD, but:

- ▶ More and harsher rejection.
- ▶ Less freedom.
- ▶ More responsibility, more “non-research”, more time needed.



How to get a job

Finding a postdoc

- ▶ Mailing lists
- ▶ Word of mouth
- ▶ <https://www.jobs.ac.uk/>

Finding a postdoc

- ▶ Mailing lists
- ▶ Word of mouth
- ▶ <https://www.jobs.ac.uk/>
- ▶ Create your own: fellowships, grants.

Finding a postdoc

- ▶ Mailing lists
- ▶ Word of mouth
- ▶ <https://www.jobs.ac.uk/>
- ▶ Create your own: fellowships, grants.
 - ▶ Fellowships (EPSRC, Royal Society, ...): prestigious but hard.
 - ▶ “Ordinary” grants: need to find someone to *officially* apply.

Applying for a postdoc

- ▶ CV
- ▶ “Research statement” (1–2 pages)
- ▶ Cover letter

Interviewing for a postdoc

- ▶ Usually a 30 minute presentation on your previous research, and fit with project.
- ▶ Then an “ordinary” interview with a panel.
- ▶ Same questions for all candidates (but follow-up questions allowed).
- ▶ Formally whole panel ranks all shortlisted applicants.

Good things to do before applying

- ▶ Be known! Go to conferences, give talks, talk to people.
- ▶ Be independent! Collaborate outside your own department.
- ▶ Publish good papers! Most important metric for postdocs.
- ▶ Write programs! Sometimes the job means actually building something.

Searching for an industry job

- ▶ Big companies (Google, Amazon) usually approach directly, have in house recruiters, process can be slow (months)
- ▶ Smaller companies can be harder to find. Advertise on things like [Angel List](#), or host tech meetups.
- ▶ Recruiters. Charge a placement fee to the company they get you a job at (10-20% year salary).

Interesting places to work

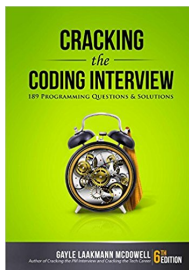
- ▶ **Smarkets** (I get a referral bonus)
- ▶ Jane Street
- ▶ Two Sigma
- ▶ Improbable
- ▶ Lyst
- ▶ Habito

Applying for an industry job

- ▶ Sites like [glassdoor](#) host company reviews, interview stories, salaries.
- ▶ Choose interesting area over interesting language.
- ▶ Tailor CV to job — don't get bogged down in research jargon.

Interviewing for an industry job

- ▶ Coding interviews often very formulaic. Lots of books like “Cracking the coding interview”. Not difficult but worth practising.



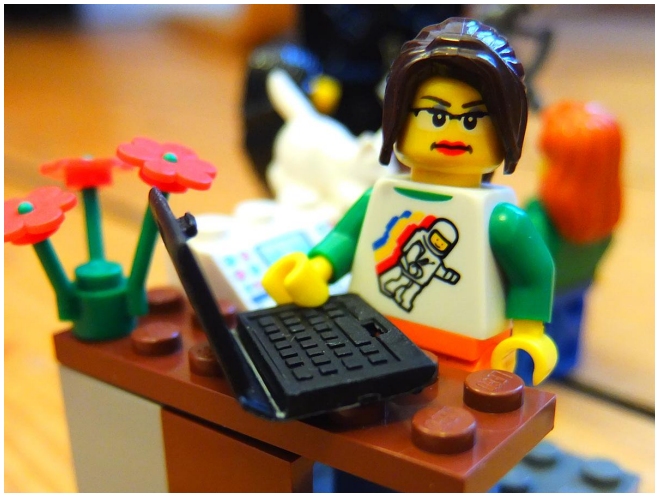
- ▶ Stages
 - ▶ Skype/phone interview ([hackerrank](#)/[codility](#))
 - ▶ Take home task (small programming or stats exercise)
 - ▶ Multiple rounds onsite

Things my colleagues recommended when I said I was giving this presentation

- ▶ From academia to industry: a short guide
- ▶ From astronomy to data science
- ▶ ASI Fellowship

Links in the slides.

Thank you!



@LegoAcademics © f s o

We will also take anonymous questions using pen and paper.

Contact

We are happy for you to email us if there is anything we can help with:

- ▶ Stuart Hannah
stuart.hannah@smarkets.com
- ▶ Fredrik Nordvall Forsberg
fredrik.nordvall-forsberg@strath.ac.uk