Landing an Industry Position

Andrew King
aking@dwavesys.com

October 18, 2016

Some context

Me

- ▶ Computer science degrees at UVic, Toronto, McGill.
  Postdoc at Columbia and SFU.

- ▶ Structural graph theory (not *really* CS)

- ▶ Was looking for a faculty position.

- ▶ Currently an *Optimization Algorithms Researcher*:
  Lots of graph theory, combinatorics, Matlab, mixed with physics.

- ▶ Went from JGT to PRB.

Some context

D-Wave (we make quantum annealing processors)

- Emerged from UBC as a startup in 1999. Now located in Burnaby.
- Initial focus was on IP for quantum computing.
- 160 people in total; 15 in Software Applications.
- Research in Apps group covers optimization, machine learning, physics, discrete math, algorithms, etc.

The government wants Ph.D.s to succeed in industry

- ~~NSERC Industrial R&D Fellowships~~ discontinued
- ~~NSERC Industrial Postgraduate Scholarships~~ discontinued
- Mitacs Accelerate program
  - Internships for postdocs and grad students
  - Four months to two years
- Mitacs Elevate program
  - Two year research and professional development program
  - Requires postdoc supervisor and industrial partner
  - Awarded competitively 2x per year

Considerations

- Requires buy-in from both a company and an academic supervisor
- Limited to work with research value
- Industrial and academic partners need to reach consensus on IP

How to get an industry job in two ~~easy~~ simple steps

1. Be qualified
2. Make it obvious

How to get an industry job in two ~~easy~~ simple steps

1. Be qualified
2. Make it obvious

Be qualified

- ▶ Programming is an overwhelming probability. Learn some Python.
- ▶ As a Mathematical Researcher™, your industry work will probably not be on your dissertation topic. That's ok!
- ▶ People want to hire someone with the ability to tackle new (and real) problems, warts and all.

How to get an industry job in two ~~easy~~ simple steps

1. Be qualified
2. Make it obvious

Be qualified

- ► Programming is an overwhelming probability. Learn some Python.
- ► As a Mathematical Researcher™, your industry work will probably not be on your dissertation topic. That's ok!
- ► People want to hire someone with the ability to tackle new (and real) problems, warts and all.

Make it obvious

- ► Get onto GitHub, write a neat little program, and exhibit good coding practices.
- ► Make it clear in your application (and interview!) that you know something about the company, the position, and the problems.
- ► The usual CV building advice applies.

Everyone wants to hire someone who can. . .

- ▶ Works well with others (nice to work with)
- ▶ Works well independently (doesn't need babysitting)
- ▶ Can produce polished work (follow-through)
- ▶ Is smart and gets things done
- ▶ Is done and gets things smart (innovates, improves practices)
- ▶ Can communicate complex ideas effectively

Showing these qualities **succinctly** will really help you.

How to *find* a job

1. **Ask around**
   - Profs
   - Former colleagues
   - Current colleagues

2. **Be around**
   - Job events ✓
   - Mailing lists
   - Seminars, colloquia, etc.

3. **Look around**
   - Mathjobs.org, cra.org (comp sci)
   - LinkedIn
   - Indeed, etc.