

Transitionning to the industry

Thibault Kuntzer
Bern - 17.09.2020

thibault.kuntzer@ssvnn.net

Outline

- My experience
- What's an industry like ?
- What's good ? What are the pitfalls ?
- Want to sell your CV ?

A few things about me

- 2014-2018 PhD in observational cosmology at EPFL
 - *Preparing the ESA Euclid mission (weak lensing)*
 - *Focus on machine learning*
- 2018-2019 PlanetS Postdoc at Unige / Unibe
 - *Transit observations analysis*
 - *Preparing the CHEOPS mission*
- 2019-now « Industry » in Bern

Why did I make the switch ?

- Long commute
- Wanted down-to-earth applications
- *Stability ?*
- *Money ?*

The logo for 'id entitas' features a red circle with the lowercase letters 'id' in white, followed by the word 'entitas' in a black, sans-serif font. The entire logo is centered within a yellow rectangular border.

id entitas

- IT-company from concept to deployment and support
- Core mission : registering animals in gov'tal databases
- Focus : livestock farming & companion animals
 - Data company in agriculture
- Private company, but close to the Swiss government

Main products

- « Animal movement database » (*livestock + horses*) & Amicus (*dogs*)
- Traceability of animals
 - *Epizootic*
 - *Animal product quality*
 - *Rare breeds*
 - *Fraud*
 - ...

The position

- Small R&D division
- 2 « *data scientists* » + 1 ex-academic head from animal science
- 3 main axes of work :
 - Animal health
 - Animal products quality
 - Environment

Responsibilities

- Focused studies
 - Publication of open data (incl. pipeline development)
 - Data cleaning & anomaly detection
 - Modelling
 - Academic-style research
 - Supporting the back office
 - Advanced concepts
 - « Exploring (new) stuff »
- **Digitalisation of agriculture**

What's *my* industry like ?

- ~120 employees
- 1/3 customer support
- 1/3 software developers
- 1/3 marketing, project management, admin, R&D
- No experience in (advanced) analytics
- Very diverse backgrounds
- Focused on Switzerland

What has not changed ?

- Small almost academic team
- Free to research interesting topics
- Convincing my peers
- Taking part in conferences
- Literature research
- Writing
- Managing expectations
- (Long) meetings

What has changed ?

- Number of concurrent projects
- Having clients
- Writing offers (with CHF)
- Convincing non-technical people
- Partners are (almost) all Swiss
- Team work
- (Swiss) German

What's good ?

- Stimulating workplace
- Same methodology & algorithms
- Applied research
- Wide range of timescales and projects

What pitfalls ?

- Balance between very applied and fundamental research
- Make or buy/subscribe
- Let's make an industry revolution !
- R&D research freedom
- Time-boxed projects
- Perks of the industry ? (*Stability ? Money ? Use of company helicopter?*)

The « CV, cover letter & interview » bit

My take on selling yourself as a good candidate

Why would industries be interested in *you* ?

- Independence
- Focused and driven (*obsessive?*)
- Quick learner
- Abstract reasoning
- Out-of-the-box / critical reasoning
- Analytical reasoning
- Modelling
- Simulations
- Advanced analytics
- Visualisation of complex data

What industries would not be interested in ?

(most of the time)

- Your particular research interests.
- « I code well in IDL, Python and Fortran »
(you're probably not a software developer, but that's okay)
- « *I understand complicated maths* » ?
- « *I can do machine learning* » ?

Skills you want to refresh

(depending on the industry)

- GIS : geographical information system
- DevOps
- Continuous Integration tools
- DB-languages, i.e. *SQL
- Java, C, C#
- Web languages

Applications

- Applications & process take time, start early.
- Apply to good and interesting jobs.
- Data science is a very broad term. What is the company looking for ? Scientific collaborator ? Data engineer ? Database curator ? Digitalisation advisor ? Machine learning engineer ?
- Learn & experience the process.

Important skills

- Ability to work with people from diverse background.
- Technical and soft skills.
- Relate to the industry sector.
- Why are you a plus ?
- Know your audience :
 - You ; them ; you+them

Interviews

- Ask about the process. Don't be surprised.
- « Tests », « Technical interviews », « workshops », ...
- Relate to the industry & interviewers.
- Know your audience.
- Salary, work percentage, perks, ...

Demystifying the transition to industry

It's not...

- The end of your scientific career ;
- Leaving all of your astronomical-related skills behind ;
- A brutal process ;
- All you've been hoping for.

It's probably...

- An important change ;
- Finding new and interesting ways to apply your excellent set of skills ;
- A possibility to enter a brand new field ;
- Taking on new challenges ;
- not that bad.