



THE UNIVERSITY of EDINBURGH
informatics



THE UNIVERSITY of EDINBURGH
School of Philosophy, Psychology
and Language Sciences



UK Research
and Innovation

UKRI Centre for Doctoral Training in Natural Language Processing



NLP

**UKRI CENTRE
FOR DOCTORAL
TRAINING**

What does the BDE do..?

- Industry days – looking for new speakers from industry / showcasing examples of student research / raising awareness of emerging topics
- **Internships** to help develop specific skills and knowledge and support your own research
- Propose **group research projects** – (c.10 weeks working in groups of 2-3 students with a small group of supervisors and with “challenge-oriented” data)
- Take part in **seminars**, international **summer schools**, **workshops** and **sandbox/hackathon events**
- Co-create **fixed-term thematic focus-groups** (industry personnel, Principle Investigators and Students discuss and work on topics of shared interest)
- **Deliver a specialist topic workshop or seminar** to share research interest / questions {short-sharp collaboration / exchange of ideas & insights)
- **Fund / part part-fund scholarships¹** and have branded industry-track recruitment specifically for such posts
- **Consultancy** – senior academics with specific expertise (potentially pulling a team of 2-4 experts to address a specific opportunity)

¹With associated IP rights or licencing benefits



SETTING UP INTERNSHIPS

HOW THE BDE TEAM CAN HELP



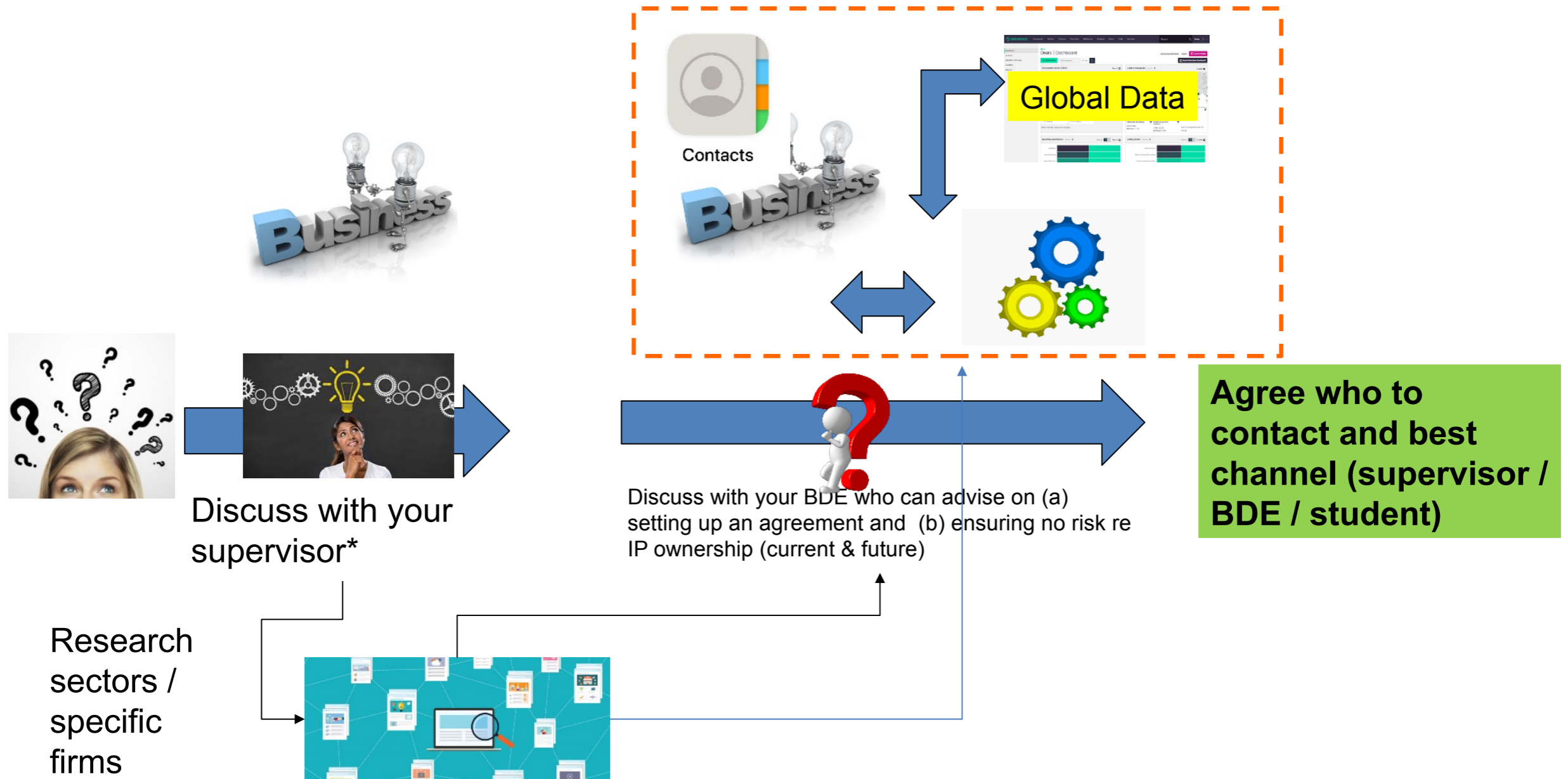
Universities: why get involved?

A statement of expectations for post-graduate training

“Research organisations are expected to provide an environment where research students have the opportunity to widen their horizons as part of their training. Experiences outside the “home” Research Organisation, for example with other academic collaborators, in non-academic environments or overseas are encouraged”.

“Supervisors should recognise doctoral study as a wider training opportunity and encourage and support students in developing their careers”

Research your options.



Ideally, start this # 8-12 months ahead of when you consider undertaking an internship

Do you have a visa with any constraints re. # hrs / week (or p.a.) that you can engage in non-study activities?



Students: why do an internship?

- *would I like to work for this company?*

It's an often unspoken topic, but the **style / culture of a company** could be the most important thing to consider when deciding on an internship (hence another reason to speak to your supervisor / BDE (as a BDE I have relationships with people at many companies and they will talk to me about “how things get done around here” and that can be a critical factor in the internship experience”)

- a broader context for you

- industry experience for your CV/LinkedIn profile
- ideas for future career development
- self knowledge: different working environments/styles
- even if you are anticipating a career in academia you may in the future be asked by a student for help / advice hence it's still a useful option in terms of expanding awareness

- a broader context for your research

- relevance beyond academia – real world applications
- constraints & opportunities of ‘making product’, ‘providing service’, etc.



Companies: why offer an internship?

- **recruitment of specialised staff**
 - internship is a long, expensive (try before you buy) job interview
 - but still the best way to find the best staff
 - fringe benefits: a skilled technical resource for some months, a fresh pair of eyes/fresh ideas
- **relations with universities**
 - pipeline of the above
 - regular injections of cutting edge research



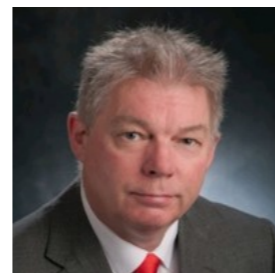
1. 'Stop the clock' (<https://web.inf.ed.ac.uk/infweb/student-services/igs/staff/programme-changes/interruption-of-study>)*)
2. 'Ticking clock'
 - different impact on:
 - your status during internship
 - what you do during your internship
 - your PhD project, inc. the write-up
 - Intellectual Property (IP) arrangements
 - supervisor/university involvement

* It is strongly recommended that you familiarise yourself with the content on this page as it covers details greater re. interruptions (i.e. more than just internships) and is a useful "aide memoir"



'Stop the clock' internships

- typically 6 months, could be 3-12 months
- you'll be paid a salary by the company
- you'll be a fixed-term employee of the host company
 - you will **not** be an employee of the University
- you'll have to sign a contract/agreement
 - the University cannot give you formal legal advice on this
 - if in any doubt, seek independent legal advice
- your supervisor will be 'hands off' – not managing you
 - instead, you'll have a manager at the host company
- you won't be working on your PhD
 - you'll agree with your manager what you'll work on





'Ticking clock' internships



- typically 3 months, could be up to 6 months
- you might get a stipend uplift...
 - your host company is not required to pay you anything
- you'll still be a full-time PhD student
 - you will not be an employee of the University or the host company
- you'll probably have to sign a visitor agreement
 - the University can give you formal legal advice on this
- your supervisor will still be supervising you
 - you'll also have a co-supervisor in the host company
- you will be working on your PhD
 - good if you can explore other things too, but don't get derailed



Intellectual Property (IP) definitions

- IP = an invention, an idea expressed in tangible form
 - written/visual design/description in any medium (report, email, PPT)
 - compiled software, source code, data, hardware designs, configurations etc.
- Background IP = pre-existing IP, or IP created during a project but not 'in the course of' the project
- Foreground IP = created in the course of a project

- IPR = Intellectual Property Rights
 - Copyright, patent rights, trademarks, registered design rights, database rights, semiconductor topography rights etc.
 - IP/IPR often used interchangeably in agreements



Intellectual Property (IP) – you should know

- by default, University of Edinburgh students own the IP they create & related IPR
 - students may be asked to **assign** those rights to the University, typically if a company is sponsoring their PhD. The “*quid pro quo*” is that the student is then treated as a staff inventor for revenue sharing purposes.
- under UK employment law, an employer owns the IP created by an employee in the course of their duties
 - this applies even for short-term employees...
 - if your supervisor makes an intellectual contribution to your PhD IP, the University owns a stake in it.
- companies do check for and sue for infringements of their IPR (‘IP leakage’)



Your PhD IP vs host company IPR

- remember Ghostbusters – don't cross the streams...





Your PhD IP vs host company IPR

- or things can get a bit messy!





'Ticking clock' internships & IP

- you may have already assigned your IP to the University
 - the assignation agreement contains confidentiality terms!
- the company shouldn't ask you to assign your IP to them
 - If the company are sponsoring your PhD, there will be an agreement with the University covering IP
- the company will still want to protect its IP
- you might introduce company IP into your PhD. This may be part of the plan, but **be careful**:
 - you would need written permission to use it post-internship, to write it up in your thesis or to include any of it in a publication
 - don't assume this permission would be granted
 - the company may want to review publications and your thesis ahead of submission and may require redactions or restricted access

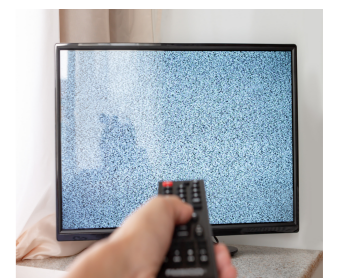


Confidentiality and internships

- both types of internship likely to involve an agreement
- confidentiality terms should be expected
- confidential information is typically defined very broadly

In this Agreement "Confidential Information" shall mean any information (including samples, materials, drawings, specifications, photographs, designs, computer code, computer programs, software, data, formulae, processes, **know-how**, any technical or commercial information), reports, papers, correspondence or documents disclosed by one Party to the other, or to any of such other's officers, employees or students, in whatever form, **(including written, oral, visual or electronic), and which is, or which should reasonably be expected to be, of a confidential nature.**

- you should not communicate confidential information without prior written permission from the company
- you should take steps to protect it against theft/loss
- obligations may survive the term of the internship
- companies take this seriously – so should you
- you could be held personally liable for any breach
 - people do get sued for breach of confidentiality





‘Can I keep a copy of the source code or reports I’ve written during my internship?’



- if you’re an employee of your host company, don’t assume you can keep any of your work after you leave
- you may be breaching your contract/agreement if you make personal copies of work
- always seek prior written permission from the company!



- if you’ve been a PhD student during your internship, the company will expect you to continue your PhD after leaving
- if your code includes or links with any Confidential Information or company IP, don’t assume you can just take it away – seek prior written permission to use it.



‘What if I have a bright idea for a product or business during my internship?’

- a grey area: bright ideas is what you’re there for...
- consider the context and what’s fair:
 - has any of the company’s Confidential Information influenced your thinking (inc. meetings, chats with staff, things learned from its internal environment, its customers etc.)?
 - if you built a business around the idea, would you be a competitor to the company, with similar products/services and customers?
- if ‘yes’, you risk litigation by developing the idea
 - maybe better to share it with the company and gain credit/kudos/£
- if ‘no’, be careful who you share it with
 - they might develop it faster than you can, whether you protect it or not
 - if you put it in tangible form, the company may have rights of ownership
 - If in doubt, keep it to yourself





Write an Internship Plan

- the things you need to do to achieve your purpose
- there may be a set project (yours or the company's) but your plan should address your Purpose too
- goalposts can shift – you may need to update your plan
- plan with your host – fit broader aims with the set project
 - don't produce a list of demands before you've been offered the internship!
 - ask your host who else you could meet / which other parts of the company you could learn about to achieve your goals
 - think about where you might contribute to the host with your knowledge or skills
 - ask how you're going to be measured



Preparation

- ask your host what preparation work you could do
 - background reading
 - familiarisation with programming languages, tools, environments etc.?
- contact the company's HR in advance
 - better if they know you're coming!
 - ask for a copy of whatever they'll want you to sign
- get the practical details sorted out ahead of time
 - the start day!
 - where you're going to stay (if away from Edinburgh)
 - where the company's office is & how to get there
 - your host's department/office address/phone number
 - who you're supposed to report to on arrival (if different)
 - what you need to bring with you (ID?)
 - what the dress code is



Review

- a review process is necessary, but we'll keep it light
- helps us to make sure:
 - we find host companies who offer good internship projects
 - the companies support interns well and provide for their development
 - our students are getting the most out of their internships
 - we continue to support your skills development and career planning
 - we are a source of suitable interns for our host companies



Being professional – company culture

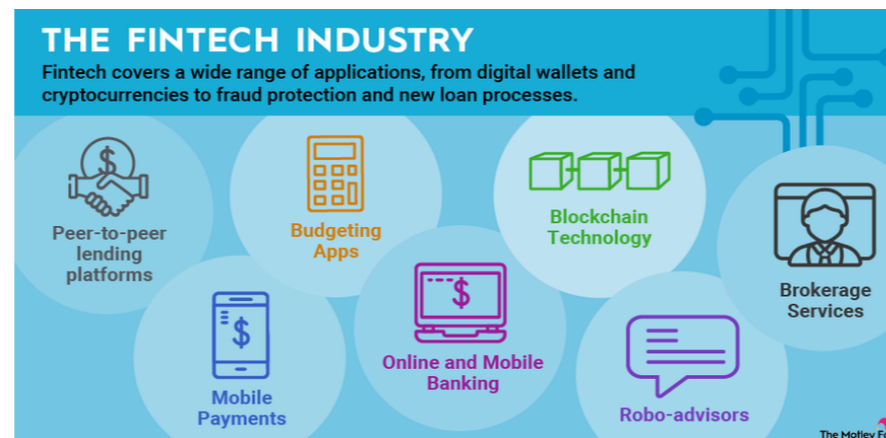
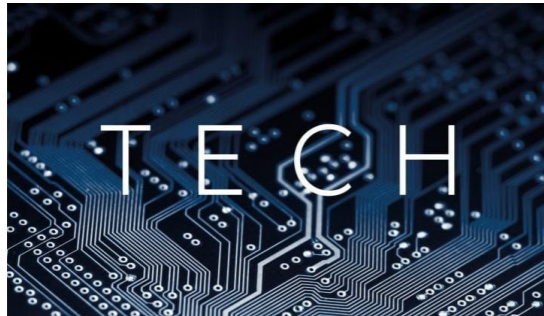
- **watch & learn: working environment**
 - if it's a quiet office, don't be noisy
 - if it's 'clean desk', don't leave stuff lying around (policy?)
 - do your colleagues eat & drink at their desks?
 - timekeeping? (time-sheets?)
 - record keeping – best if major decisions are agreed in writing
- **watch & learn: levels of formality**
 - how do people address each other?
 - are meetings free-for-all or structured?
 - do people just walk into each other's offices?
- **personal online activity during work time (policy?)**
 - if you're a social media addict, think carefully before posting/tweeting
 - if you publish negative remarks about your host company, manager, colleagues, project, etc. don't expect a long internship or a job offer!



Career Options?

1. University Career Service
2. Your supervisor







Management Consultancies

- 1 McKinsey & Company
- 2 BCG
- 3 BAIN & COMPANY
- 4 Monitor Deloitte.
- 5 OLIVER WYMAN
- 6 KEARNEY
- 7 strategy&
- 8 EY PARTHENON
- 9 OC&C Strategy consultants
- 10 KPMG Global Strategy Group
- 11 L.E.K.
- 12 Arthur D Little
- 13 Roland Berger
- 14 accenturestrategy
- 15 SIMON • KUCHER & PARTNERS Strategy & Marketing Consultants
- 16 A&M
- 17 FTI CONSULTING
- 18 CL MANAGEMENT CONSULTANTS
- 19 analysys mason
- 20 Marakon
- 21 PA
- 22 frontier economics
- 23 AlixPartners
- 24 Candestic
- 25 eden mcCallum

Career Options?

1. University Career Service
2. Your supervisor



Consider a personal SWOT analysis (Strengths / Weaknesses / Opportunities / Threats)

BUT

O.T.S.W.



OTSW...

Competition

Opportunities

- What you want to do...
- How the market is evolving...
- Specific target sectors

Threats

- Competition?
- Fit with sector / company needs?
- Location?

Strengths

- A strength ≠ something you are good at or like!
- Strength is only a strength relative to the competition
- Only a strength relative to what value you add to a situation

Weaknesses

- A weakness ≠ something you are poor at (if it's not relevant to the sector or needs nor associated with an opportunity don't bother about it)
- Weakness is only relative to the competition!

Translate “Features” into “Benefits” – a benefit = “which means that”
 I don't go to bed until midnight....which means that I have energy for engaging with people in California

1. Don't forget “**you**”; (competencies “describe a time when you:.....dealt with a difficult colleague / had to hit a tight deadline / had to renegotiate a commitment.....etc. etc.)
2. Code writing is not a strength if everyone else is just as adept!
3. **Companies look for; “will they fit in?” / Will they be self-sufficient? / “will they make me look good”**