

Building a relationship with the industry

Internships, summer schools, graduate projects

Vlad Posea
vlad.posea@cs.pub.ro

Plan

Brief history

Internship programs

Summer schools

Graduate thesis

Joint industry initiatives

Financing

TODOs

Brief history

- Until around 2010 internships were mandatory and had a length of 3 weeks
- Useless both for companies and students
- In the 5 year program there were 2 internships one in the second year, one in the fourth
- In the 4 year program (Bologna) we have a mandatory internship in the 3rd year
- From 2010 internships have to be at least 320 hours (around 2.5 months 6hr/day)

Internship programs

Goals:

- Find meaningful summer jobs in the IT domain
- Opportunity to work on real projects in real teams
- Convince companies of the value of creating bonds with students and "growing" them
- Create an open market for the internships
- Convince students to get back to school afterwards

Finding internships

Get a list of companies in the domain (linkedin very useful)

Know what types of internships can be created by each and pitch them to the company

Contact them

- Find connections that are in the management and pitch the idea
- Convince anyone you can if you can't find people in management
- Ask for meetings at the company headquarters
- Usually not a good idea to go directly to HR (more work for them to run an internship program, they might not be thrilled)

What to sell to a company

Internships are a great way to grow future employees

Students that enter the company through an internship

- have a lower acquisition cost
- Are more faithful to the company as they develop bonds with the mentor
- Can produce value for the company in a relatively short time if managed correctly
- Some countries offer advantages to companies hiring students for the summer

Types of internships

Learning internships

- Organized in more difficult domains where there is a bigger technological gap between the students' competences and the company's requirements
- Courses on technology
- Small projects not integrated in the company's business
- Main goal is to get the student accustomed with the technology set
- Less payment for the student as it generates less value during the internship, more investment from the company in training
- Companies more interested to keep the student after the internship to get a better ROI

Types of internships

Discovery internships

- Usually in big companies students discover the different positions available
- Allow them to find out what they really want to do
- Sometimes organized as team projects with different roles for each student
- The student gets to experiment different roles (QA, Dev, Lead, UX, Product, ...)
- Internal or test projects
- Also less paid

Types of internships

Job

- Basically the student is hired as a junior
- Works on real projects
- Starts with bug fixing for example
- Implements minor tasks
- Gets own features to implement
- Better paid usually as they create value for the company
- Learning curve steep and much shorter

Types of internships

Learning internships - R&D companies

Discovery internships - big companies with large projects, big technology sets.
R&D, Gaming, ...

Jobs - mostly in outsourcing, sometimes in R&D

Create an open market

Allow the companies and students to interact in an open but regulated market

Example of workflow:

- Companies post internship offers containing requirements, description of work, learning objectives
- Faculty validates the offers
- Students apply to the offers
- Company interviews/tests/ makes an offer
- Student receives offers, chooses one, signs an agreement
- Brings proof of offer to faculty
- At the end of the internship they bring a proof that the internship has taken place and an evaluation from the tutor
- You just have to talk to the student and let him explain what he learnt

What not to do in an internship workflow

Do not distribute students to companies. Let them interact. You'll get them both frustrated and might leave the program

Do not accept internships that are not connected to the domain, or don't have any learning objectives or no clear description of work

Relax the validation process for old partners, the companies that you know are doing a good job

Do not forget to monitor what happens during the internship

Our open internship market

www.stagiipebune.ro

Run by an NGO, started in 2004 with 10 internship ads

Now more than 300 ads/year, 1000+ positions, 1500+ students that apply each year

Financed by companies through sponsorships

Convince students to come back

Most difficult part

Students find it very difficult to give up the financial independence

They start working full-time, abandon or choose the easy path through school

Just advice to get hired later do not work

I started pushing for an open market that promotes part-time jobs

Summer schools

2-3 weeks courses and hands-on workshops

Organized in collaboration with companies (preferably more than 1)

Designed for 1st or 2nd year students

Main purpose: help students discover a specific domain

Summer schools in UPB: open source development, electronics, embedded, multi-agent systems, machine learning

Graduate thesis projects

Coordinated both by a professor in the university and an engineer in the company

Theme proposed by company

Usually financed by a company

Workflow similar with the internship, open market also available

Problem: less students interested to do a difficult project, many of them already have a job

Only R&D companies can offer these kind of projects, the outsourcing companies not interested

Joint industry initiatives

Problems: lack of highly qualified people in a domain, difficulty for people to change from one domain to another

Domains for example: gaming, embedded, frontend web dev, backend web dev, QA, ...

Target: convince companies to work together to grow a segment, train together students and attract them to their domain to make sure they have a large enough workforce in the future

Available tasks: summer schools, joint courses

Financing

- From companies for:
 - Events where they present their company and their internship offer
 - Extra publicity
- European/public funding
 - Scholarships
 - Development of programs and partnerships
 - Development of curricula
 - Training of people

Vision of the funnel

Companies want to have a steady stream of qualified employees on a medium-long time frame

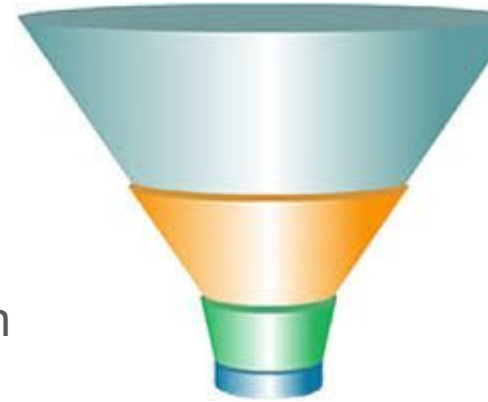
You help them create a funnel of candidates.

The summer schools help attract people to the domain. You can do summer schools with larger number of students.

Some that still are interested apply to internships

Best interns do graduate projects

Companies keep the authors of the best projects



Vision of the funnel

The funnel is a concept from sales

You help them developing an acquisition process that

- Allows having a steady stream of candidates annually
- Strengthens the workforce in the domain in which the company activates
- Strengthens the image of the company as a trusted employer
- Allows them to predict future candidates and select the best from a large pool from an early age (Messi was recruited by Barcelona at 13 :))
- Increase the visibility and renown of the companies among the potential employee candidates (students talk about how interesting was their first experience)

TODOs

Work on better communication with companies (people change, you want to maintain relations no matter who's in charge)

Have projects all year round. It's easier to maintain a continuous relation than renew it once a year

Work on better communication with students on what their options are

Of course all these advice are useless if there's no market for your graduates:(