

NLP without Annotated Dataset

NLP Careers

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Why now?

"Perhaps one topic that could be covered is company expectations when hiring and where things stand industry-wise."

I will try to ...

give a quick overview of...

- ▶ the kind of jobs out there
- ▶ typical expectations, interview processes
- ▶ how to keep track of what is going on

... based on my very limited knowledge of north american practices, but to German students!

Typical career paths SfS

(that I know of)

- ▶ Getting into a PhD program
- ▶ Joining IBM, Mercedes etc. (tech. companies, with potentially NLP work)
- ▶ Joining translation services companies (e.g., Transline in Reutlingen)
- ▶ Joining in general software engineer roles
- ▶ Linguist roles in tech companies or related ones

(SfS alumni are into all of these, in and outside Germany. Try to reach out for help/referrals!)

... are at:

- ▶ IBM, Amazon, Elastic (Elastic Search), Microsoft
- ▶ Mercedes, Daimler, Volkswagen
- ▶ Software AG
- ▶ Transline (at least used to be)
- ▶ Almato, GFai, Docyet, Carmeq etc
- ▶ Explosion.AI (Spacy)

Expectations: PhD applications

- ▶ Some background working in research projects
- ▶ General interest in pursuing research, reading up papers etc
- ▶ Some ideas to pursue research on
- ▶ Good written and spoken communication
- ▶ Reasonably good programming skills.

PhD life

- ▶ Some course work (optional)
- ▶ work as a research assistant in some funded project
- ▶ think about what related problem can you solve for phd thesis
- ▶ write papers
- ▶ read papers
- ▶ give talks, attend conferences etc.

Expectations: Linguist Roles

- ▶ I have no direct idea.
- ▶ Companies like Appen have roles for linguists, focusing on data annotation.
- ▶ Companies like Grammarly have roles involving rule engineering (which needs some linguistics knowledge)
- ▶ Duolingo has some roles related to language learning exercises
- ▶ Google, Microsoft etc all hire linguists for data annotation, evaluation, error analysis kind of profiles

note: I know these through past students who applied to such positions. No direct experience.

Expectations: Tech companies

(for NLP projects)

- ▶ Very good programming skills (which language is often not too important)
- ▶ Problem solving skills: how do you approach a problem?
- ▶ Some understanding of Linguistics, NLP, Machine Learning, Deep Learning.
- ▶ Some prior experience working on some NLP research project

Expectations: Software Engineer roles

(more generic than the previous slide)

- ▶ Very good programming skills.
- ▶ Ability to convert requirements to code
- ▶ Ability to understand and follow good coding practices (version control, code review, code profiling, documentation etc)
- ▶ Learn and adapt quickly

Life in a company

- ▶ Initial years: you may write a lot of code every day, attend some meetings, probably read a lot
- ▶ mid-years: reduced coding, more design, more meetings, probably some presentations, conferences etc.
- ▶ later: further reduced hands on work, and more management work.

What interviewers may look for in companies

What I look for, when I interview:

- ▶ Can this candidate explain their course projects clearly?
- ▶ If I pose a similar (but not same) problem, can they propose a solution, relating this to those problems?
- ▶ If I ask for an alternative solution, can they think and give some ideas?
- ▶ Do they have some idea about different "methods", as well as different "application" scenarios, based on course work?

Specific Skills to prepare for

- questions related to resume/past work
- programming and software engineering questions
- machine learning/Deep learning/NLP: conceptual questions
- problem solving questions (mostly related to company's domain)
- statistics questions
- behavioral questions
- work culture related questions
- questions we can/should ask the interviewer

Source - my blog post about my own job search

General Notes

- ▶ Good programming skills are a must when starting out. Practice on websites like hackerrank.
- ▶ Be willing to keep learning and adapting to change more, at least in initial years out of Uni.
- ▶ Don't stick to NLP - see where else can you apply what you learnt in school and apply there too.
- ▶ It is useful to have a github profile with some project codes etc. if possible

Useful links

- ▶ <https://nlppeople.com/> - I used to look here for jobs.
- ▶ Twitter - following NLP companies, researchers provide good source of information about current trends, job openings, careers etc.
- ▶ I follow newsletter.ruder.io (among others) for getting news about recent NLP research updates
- ▶ TowardsDataScience blog for more practical articles (how to use a library to do X etc)