

Linguistics in Industry:

Finding your dream job as a linguist

Laura Walsh Dickey, PhD
soundexpertise.com

Topics we'll cover today

- ❖ Some differences in culture
- ❖ The barriers to finding jobs outside of academia
- ❖ Me as an example
- ❖ What types of work are out there
- ❖ How to decide what's right for you
- ❖ Actual jobs available
- ❖ Best practices for getting a job in industry
- ❖ Resources

Culture differences in academia and industry

- ❖ **Presumption of an academic path**
 - Many academic fields have a presumption of academia as the employment path
- ❖ **97% vs 3%**
 - Academia: models that covers all cases; edge cases
 - Industry: build something that works well; modeling most cases
- ❖ **Collaboration vs lone wolf**
 - Research mission vs project work
 - More common in industry to be part of a team with different specializations working together
- ❖ **Time**
 - Academic time scales are much longer for starting projects, getting buy-in (funding) for projects, for hiring people, for changes in colleagues
- ❖ **CVs & resumes**
 - Your special skills vs your widely applicable skills (*make the covert overt*)
 - Succinct vs thorough
 - Overview and highlights vs standardized academic format

Marketable Linguistics

- ❖ People don't think of linguistics as having clear employment opportunities
- ❖ Many employers who need linguists don't advertise for them in obvious ways
- ❖ Many advertisements for *linguists* are for translators
- ❖ The resume
- ❖ What are the types of job opportunities for linguists and how do you find them?

My story

- ❖ BA, PhD in Linguistics
- ❖ Started as an academic
 - Research scientist (Max Planck Institute)
 - Assistant professor (Northwestern University)
- ❖ Moved into consulting
 - Phonetic transcription (studies on drug name perception)
 - ETS (SAT, GRE, GMAT)
 - Pronunciation consultant (recording a dictionary)
 - Product & company naming
 - Legal briefs on language perception and dialect
 - Morphology/orthography consultant (literacy software)
 - Consultant for journalists
 - Software
 - speech recognition
 - language acquisition
 - natural language processing
- ❖ Full-time offers in the software world
- ❖ My job now

Types of employment

❖ Consulting

- Variable work/income
- Graduate degree a plus
- No taxes withheld
- Need to sell yourself

❖ Contract work

- Variable work/income (often 6-12 months)
- Graduate degree irrelevant
- Usually through an agency which finds shorter & longer term contract work for you (not posted on the site of the larger company, like Google)

❖ Regular job

- the trick is figuring out who needs you

What to ask yourself

- ❖ *Do I have the open personality required to sell myself for each job?*
- ❖ *Am I comfortable (emotionally, financially) with irregular work?*
- ❖ *Am I willing to move someplace new for a job?*
- ❖ *Are there certain linguistic things that really excite me?*
 - *Naming/marketing*
 - *Phonetics*
 - *A particular language*
 - *Coding/machine learning*
 - *Lab/experimental work*
 - *Language acquisition*
 - *Corpus work*
- ❖ *In addition to my linguistics training, what are my special skills?*
 - *Statistical analysis*
 - *Coding*
 - *Specialized software (Praat, lesion tracing, eye-tracking, E-prime)*
 - *Project management (organization & task-tracking)*
 - *Phonetic transcription*
 - *English transcription*
 - *Non-English language skills*

Examples of jobs

Let's look at some actual jobs...

Text Classification: Google

Analytical Linguists work across Google to drive improvements in quality, classification, information structure, and natural language understanding and generation. As an Analytical Linguist you will work both on complex projects spanning multiple products, groups, and disciplines, and on tightly focused efforts to produce specific product components or answer specific research questions. Analytical Linguists work in many different areas and arrive with a wide variety of skills—your specialization might involve natural language processing and understanding, phonology, phonetics, syntax, semantics, ontology, program management, human subject research, experimental design, statistics, corpus linguistics, large scale data acquisition, or any combination. This team is part of some of the most groundbreaking and exciting work at Google. It's our goal to use insights from linguistics and related fields to constantly improve our products.

Don't worry about this unless you get an interview

As an Analytical Linguist on the Text Classification team, you will collaborate with software engineers, product managers and language experts to build high-quality text classifiers for the display advertising ecosystem. You will develop taxonomies and category sets, working closely with key stakeholders to understand product requirements. You will set data labeling policies, and design, build, and curate labeled cross-language datasets for classifier training and evaluation. You will build and evaluate custom classifiers using state-of-the-art machine learning tools and techniques to help Google better understand the web and its users.

These are core to the job

Users come first at Google. Nowhere is this more important than on our Advertising & Commerce team: we believe that ads and commercial information can be highly useful to our users if, and only if, that information is relevant to what our users wish to find or do. Hundreds of thousands of advertisers worldwide use AdWords to promote their products; hundreds of thousands of publishers use AdSense to serve relevant ads on their website; and business around the world use our commerce products (like Google Offers, Google Shopping, and Google Wallet) to support their online businesses and bring users into their offline stores. We build and maintain the platforms that have made Google what it is today, and are constantly innovating to deliver the most effective advertising and commerce opportunities of tomorrow.

Responsibilities

Use all of these keywords to tailor your resume

- Define and describe categories and taxonomies in accordance with product needs.
- Design categorization tasks and write annotation guidelines for language experts contributing in around 20 languages.
- Assess and improve the quality and consistency of annotated datasets. Administer annotation workflows for language experts, ensuring balanced workloads and timely completion of projects.
- Build classifiers, and evaluate their quality in the context of product requirements.
- Collaborate effectively with linguist and engineering colleagues to improve tools and processes.

Qualifications

Minimum qualifications:

- BA/BS degree or equivalent practical experience.
- 2 years of relevant work experience (e.g., data scientist, ontologist, computational linguist, etc.)
- Academic or work experience involving experimental design, research methodologies, qualitative and quantitative analysis.
- Experience with scripting languages, web development or database query languages. Experience working in a Linux environment.

Academic work can count

Preferred qualifications:

- MA/MS/PhD in an analytical discipline (e.g., Linguistics, Cognitive Science, Statistics, etc.)
- Experience in ontology design, crowdsourcing of data, and/or machine learning.
- Work experience in the field of online advertising; highly aware of emerging trends in web culture, media and advertising.
- Exceptional written and oral communication skills in English, and proficient in one or more non-English languages.

Czech; Dutch; Polish; Russian; Swedish; Turkish; Computational Linguistics: Nuance

Employer: Nuance Communications

Mobility

<http://www.nuance.com>

Job Location: **Aachen, Germany (Telecommute)**

From anywhere!

Title: **Natural Language Understanding Consultant**

Rank: **Other**

Computational Linguist; Linguist

Linguistic Field(s): Computational Linguistics

Language Specialty: **Czech**

Dutch

Polish

Russian

Swedish

Turkish

When you see a list of languages, there might be even more

LL Issue: **27.4116**

Date Submitted: 13-Oct-2016

Job Description: Our NLU Department is currently looking for NLU Consultants for Russian, Czech, Polish, Swedish, Dutch and Turkish. The job will consist of development in NLU, focused on adding to and improving products used by millions of people all over the world.

Linguist/Script-writer for voice interactions: Abjayon

Employer: Abjayon Inc.

<http://www.abjayon.com/>

Job Location: **California, USA (Telecommute)**

Title: **Linguist / Script-Writer**

Rank: **Consultant**

Linguistic Field(s): Computational Linguistics
Sociolinguistics
Translation

LL Issue: [27.3650](#)

Date Submitted: 14-Sep-2016

Job Description: Linguist / Script-Writer (1 year contract), Mountain View CA

- *A growth area for linguists is working on virtual assistants*
 - *question answering scripts & grammars*
 - *general voice interactions*

Duties:

The main responsibilities will include:

- Research and Suggest every response scenario that Voice Interaction UI or Voice Agent will provide customers in Smart TV models.
- Write quality command and response script which have both linguistic attraction and usability.
- Command script – sort of natural language that the user might say to the Voice Agent in the TV
- Response script – what the Voice Agent will actually say to the users (Error information, suggest alternatives, backup questions to comprehend user's intention etc.)
- Guide the translation to other languages. Managing the translation quality.

I have done this without knowing those other languages

Skills:

- Background in socio-linguistic human verbal interaction for 2-3 years.
- Need experiences in understanding Human – Device (computer) interaction.
- A native English speaker that deeply understands spoken languages in these days.
- Need to perform or co-work with users/testers for scenario & response verification.
- Good to know many foreign spoken languages like: US English, UK English, French, German, Italian, Spanish, Polish, Dutch, Russian, Mandarin, Brazilian Portuguese, Korean.

Semantics, Syntax, Junior Linguist: Google

Employer: Google
Natural Language Understanding

Job Location: **California, USA**

Title: **Junior Linguist [English]**

Rank: **Other**
Junior Linguist

Linguistic Field(s): **Semantics**
Syntax

For junior or contract positions, this usually means coursework -- don't think you have to be an expert

Language Specialty: English

LL Issue: 27.3138

Date Submitted: 01-Aug-2016

Job Description: As a Junior Linguist, you will be annotating and reviewing linguistic data in English. You will also contribute to a number of other tasks to improve natural language processing at Google.

Work will be done from Google's office in Mountain View, CA.

The tasks include:

- Annotating and reviewing linguistic data
- Labelling text with semantic, syntactic and morphological features
- Annotating lexicon entries according to guidelines
- Evaluating current system outputs
- Deriving NLP data for new and ongoing projects

Requirements:

- Native-level speaker of English
- Degree in Linguistics or Computational Linguistics
- Experience in annotation work
- Knowledge of semantics and syntax
- Ability to quickly grasp technical concepts; learn in-house tools
- Keen interest in technology and computer-literate
- Excellent oral and written communication skills
- Attention to detail and good organizational skills
- Able to multitask effectively, flexible to changing priorities.

Project duration: 6-12 months (with potential extension). This is a fixed-term contract, not a permanent position.

General Linguistics, Data Scientist: Bank of England

Employer: Bank of England
Advanced Analytics
www.bankofengland.co.uk

Job Location: **London, United Kingdom**

Title: **Data Scientist**

Rank: **Scientist**

Linguistic Field(s): Computational Linguistics
General Linguistics

LL Issue: [27.3258](#)

Date Submitted: 12-Aug-2016

Job Description: Data Scientist - Advanced Analytics
£competitive
London

Brief Description:

This job is an exciting opportunity to work at the intersection of finance, public policy and data science. The successful applicant will have particular experience in quantitative text mining/computational linguistics, and more general interest in all aspects of data science and different types of data.

Job Requirements:

Essential

- Experience using analytical scripting languages e.g. R/Python, especially relevant text mining packages
- Experience extracting and cleaning text in different formats e.g. HTML, pdf files
- Experience with at least one of the following: sentiment analysis, word sense disambiguation, word embedding, topic models
- Ability to visualise text effectively
- Solid knowledge of English grammar and rhetorical devices
- Good communication skills with the ability to clearly explain complex concepts in simple language, both verbally and in writing
- Creativity - an aptitude for making connections across different projects and disciplines
- Good team player
- Ability to manage multiple projects and competing demands
- Interest in policy issues

Phonetician: DefinedCrowd

Employer: DefinedCrowd

<https://www.definedcrowd.com/en-us/>

Job Location: -----

Title: **Phoneticians of UK English, French, Italian**

Rank: **Other**

Linguistic Field(s): Applied Linguistics
Phonetics

Language Specialty: [Chinese, Mandarin](#)

[English](#)

[French](#)

[Italian](#)

[Japanese](#)

[Korean](#)

[Norwegian Nynorsk](#)

[Spanish](#)

Current job offers:

- Phoneticians for UK English, French (France), Spanish (Spain), Italian, Norwegian, Japanese, Chinese, Korean

We are looking for Phoneticians with a strong linguistic background academically and hands-on experiences working on phonetic transcription or related projects. The candidate will have the opportunity to join an internship or lead a team of multiple linguists if proven to be an accountable and reliable resource.

The position starts immediately and is an ongoing engagement. The estimated workload is about 20-30 minutes daily except weekends. The work is to be performed online.

The job responsibilities include:

- Provide phonetic transcription according to project guidelines.
- Provide feedbacks and improvement suggestions of phonetic transcription process.
- Provide inputs on system workflow design.
- Work closely with Project Manager to manage the project execution.
- Potentially manage a team of linguists to perform other linguistics related tasks.

Basic job

Play nice

Potential for bigger scope

The required qualifications are:

- Native speakers.
- BA in Linguistics. Masters is a plus.
- Some experience with phonetic transcription and familiarity with IPA and other phonetic alphabets.
- Strong communication skills along with ability to meet deadlines.
- Strong attention to detail and ability to work as a team player and independently.

Think about it while
you're doing it

Language Acquisition; Psycholinguistics: Researcher, Duolingo

Responsibilities:

- Sustain a compelling research program that's both theoretically interesting and potentially applicable to Duolingo in the future
- Use Duolingo data to gain insights into the learning process
- Conduct behavioral experiments with our users or by recruiting participants elsewhere (e.g., on Mechanical Turk)
- If applicable, use computational modeling techniques to understand how people learn
- Present and publish your work in top conferences and journals

There are many research positions available to new PhDs at big and medium-sized tech companies

Requirements:

PhD in learning sciences, cognitive psychology, (psycho)linguistics, applied linguistics, or a related field

- Postdoctoral researcher or faculty member at a research university
- Research expertise and strong publication record in learning sciences (e.g., language learning, child language acquisition, learning and memory, category learning, etc.)
- Excellent skills in experimental design and quantitative data analysis (including programming in languages such as R, Python, SQL, etc.)
- Good analytical thinking skills and ability to apply research insights to product development
- Outstanding interpersonal communication and organizational skills
- A desire to make the world a better place through technology
- Ability to relocate to Pittsburgh, PA

Industry research jobs differ from academia - no teaching, higher pay, no grant writing, faster pace, research program is defined by the company.

NSF Behavioral Scientist Program Director

Specialty Areas: General Linguistics

Be the one to control the money

Description:

Summary:

The National Science Foundation is seeking qualified candidates for a Behavioral Scientist (Program Director) position in the Linguistics Program, within the Division of Behavioral and Cognitive Sciences (BCS), Directorate for Social, Behavioral and Economic Sciences (SBE).

Responsibilities:

The Linguistics Program supports basic science in the domain of human language, encompassing investigations of the grammatical properties of individual human languages and of natural language in general. The Linguistics program also supports projects to develop and advance scientific and scholarly knowledge concerning endangered human languages. The program encourages projects that are interdisciplinary in methodological and/or theoretical perspective, and that address questions that cross disciplinary boundaries.

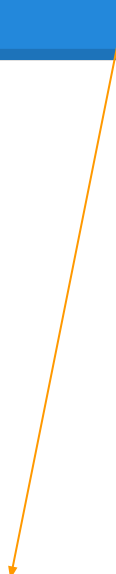
Program Director responsibilities include long-range planning and budget development for the Program, the administration of the merit review process and proposal recommendations, identification of strengths and weaknesses in a given field, assisting with preparation of press releases, feature articles and material describing advances in the research supported by the Program, and coordination and liaison with other programs in NSF, other Federal agencies and organizations.

Analytical Linguist Project Manager

Mountain View CA

Note locations when the job is through an agency:

- Mountain View is probably Google
- Cupertino is probably Apple
- Menlo Park is probably Facebook
- Redmond is probably Microsoft
- Seattle is probably Amazon
- Sunnyvale or Boston is probably Nuance



Project Manager and Program Manager jobs are great for organized linguists when the work is related to language. You use your technical expertise to decide how projects should be set up and run.

Our Fortune 100 client is looking for an Analytical Linguistic Project Manager to help with data collection projects to improve translation quality.

Responsibilities

- Understand and synthesize client data requirements into an end-to-end actionable plan, and then oversee execution.
- Communicate regular status updates and ensure smooth progress with escalation where needed
- Manage vendor progress and data quality and create necessary checkpoints and reviews

Academic work can count: Have you been an RA? Have you organized a conference or a working paper volume? If you are an organized person, don't let this kind of qualification dissuade you

Requirements

- Education: BA/BS in any field (technical field preferred)
- **3+ years program management experience** (internal/external stakeholder management, running vendor operations)
- Strong execution skills and attention to detail
- Strong analytical skills

Machine Translation Computational Linguist

DESCRIPTION

Amazon is looking for passionate and talented **computational linguists** with background in Machine Translation (MT) and/or Natural Language Processing (NLP) to help us scale our industry-leading MT and NLP technology.

Our mission is to enable superior experience for all of Amazon's customers in their native languages by developing and deploying state-of-the-art technology and applications in Machine Translation (MT), Natural Language Processing (NLP) and Machine Learning (ML).

As part of our MT research & development team, you will work on **developing, deploying, maintaining and supporting** our platform fleet of Machine Translation systems that serve our various Amazon teams and clients. Your work will directly impact millions of our customers in the form of products and services that make use of our MT and NLP technology. You will gain hands-on experience with Amazon's heterogeneous language data sources and large-scale computing resources to accelerate advances in MT and NLP.

I've also seen these called "Machine Learning Engineers", "Localization Engineers", "NLP Engineers", "Language Engineers", "Analytical Linguists"

Other linguist job titles include "Taxonomist", "Ontologist", "Knowledge Engineer", "Data Scientist"

Look for the verbs

Major Responsibilities

- Train and evaluate neural models for MT using Amazon's proprietary MT technology.
- Analyze the accuracy and performance of MT models and systems.
- Assist in deploying, maintaining, and supporting Amazon's platform fleet of dedicated MT systems in production for our clients.
- Design and implement software to collect, analyze and prepare large natural language data sets.
- Collaborate on experimentation, integration, and testing of technology improvements.

BASIC QUALIFICATIONS

- BS in Computer Science, Computational Linguistics, Language Technologies, Linguistics, or in another data engineering field.
- Proven experience working on data-intensive Natural Language Processing technology systems or similar systems.
- Good implementation skills in Python and basic familiarity with Unix.
- Formal or informal knowledge of linguistics and/or foreign languages.

PREFERRED QUALIFICATIONS

- MS in Computer Science, Computational Linguistics, Language Technologies, Linguistics, or in another data engineering field.
- Experience using tools and systems for standard NLP tasks, such as language modeling, named entity recognition, syntactic parsing, etc.
- Experience/ familiarity with general machine learning algorithms.
- Experience in development of large-scale NLP systems in a large industrial or government environment.
- Experience with Perl and/or Java.
- Solid software development experience.
- Good written and spoken communication skills
- Exceptional analytical, troubleshooting and problem solving skills.

Final thoughts

❖ Use word of mouth

- talk to everyone you know about what work you're looking for
- contact people you admire or have a connection to
 - many jobs come directly or indirectly through connections

❖ Consider temporary work as a stepping stone

- two recent Pitt grads took temp jobs at Google and now have permanent Google jobs

❖ Be open

- to new places
- to work that only seems partly relevant to you

❖ Let them say no

- Never rule yourself out of a job because you're not sure you're a good fit
- Put yourself out there and let them decide if they want you

Links

[Linguist List job board](#): widest source of jobs

[Appen](#): consulting for translation, localization, transcription

[Lionbridge](#): consulting for translation, localization, transcription

[ETS](#): help create the tests

[Anzu Global](#): agency placing linguists in temp jobs

[Amazon jobs](#)

[Google jobs](#)

[soundexpertise.com](#): laura's consulting website

Thank you!

Appendix

Links spelled out

<https://new.linguistlist.org/career/search/>

<http://www.appen.com/company/opportunities/>

<https://www.lionbridge.com/join-our-team/>

<https://www.ets.org/careers>

<http://anzuglobal.com/services/globalization-staffing>

<https://www.amazon.jobs/en>

<https://careers.google.com/jobs/>

<http://soundexpertise.com/>

bio and abstract

lwd bio

Laura Walsh Dickey is an R&D manager for Machine Translation at Amazon. She has a PhD in Linguistics from the University of Massachusetts, Amherst and 25 years of experience in academia, consulting, and industry. She joined Amazon in 2018 after 5 years at Google in Machine Learning and language technology. Her research at the Max Planck Institute for Psycholinguistics and Northwestern University focused on the phonology of liquid consonants, speech perception, and speech production. Her forays in consulting range from drug name confusability to building software for teaching foreign language pronunciation to understanding what people mean when they type in that Google search box.

talk abstract

People know when they need to hire a dentist or an accountant, but they rarely know when they need to hire a linguist. This talk focuses on the professional opportunities available to people with linguistics training, from undergraduate to graduate degrees. Laura Walsh Dickey shares her experience transitioning from academia to industry. As part of the talk, she discusses specific problems she's worked on and the kinds of interesting challenges that linguists might find themselves working on in industry. She talks about how to spot jobs that might be appropriate for linguists and gives practical tips about finding them, applying for them, and deciding what's right for you.