

# Keisuke Ueda

SENIOR SOFTWARE ENGINEER · LANGUAGE MODELING

1281 Lawrence Station Road, Sunnyvale, CA 94089

☎ (408) 859-1834 | ✉ ueda.keisuke@me.com | 🌐 <https://github.com/ueda-keisuke> | 🔗 <https://www.linkedin.com/in/uedakeisuke/>

## Work Authorization Japanese Citizen, U.S. Permanent Resident

## Summary

Seasoned Software Engineer with extensive experience at SoundHound as a Senior Software Engineer. Pioneered as the company's first non-English language model developer, spearheading comprehensive code development for multilingual language model projects. Notably, I built from scratch the pre-processing for Japanese language model training data, contributing significantly to the release of commercial-grade language models. In addition to creating a plethora of ancillary tools, such as language model inspection utilities, I developed backend systems with RESTful APIs and corresponding front-end applications to ensure cross-team usability. Instrumental in architecting language model build pipelines and crafting dashboards for enhanced data management and visibility.

## Work Experience

### SoundHound AI, Inc.

*Santa Clara, CA, USA*

SENIOR SOFTWARE ENGINEER & LANGUAGE MODELING

*Apr. 2017 - Apr. 2020*

- Language Modeling (LM) for Automatic Speech Recognition (ASR)
  - Leveraged MapReduce (Hadoop) and Java to train extensive language models, enhancing ASR accuracy through grammatical insights.
  - Specialized in Japanese and Mandarin Chinese LMs, achieving industry-leading accuracy rates for Japanese speech recognition.
  - Delivered innovative language models to cater to diverse customer requirements, with a focus on handling phonetic information challenges.
  - Pioneered text segmentation methods, crucial for Asian languages, and optimized vocabulary and segmentation dimensions.
- Diagnostic Tools Development
  - Crafted a RESTful backend service for language penalty diagnostics using HBase, Jetty, and Java.
  - Employed MapReduce, scripting languages, and command-line tools to diagnose ASR discrepancies by scrutinizing extensive training and intermediate datasets.
  - Devised efficient algorithms to process and analyze large volumes of data.
- Dashboard Creation and Management
  - Developed a user-friendly dashboard frontend with Bootstrap and D3.js, showcasing charts and tables for streamlined capacity planning and quick data visualization.
  - Constructed the dashboard backend using MySQL and Flask with Python.
  - Designed Python and shell scripts to fetch server-side data, storing it systematically in databases.
  - Introduced multiple Slack bots to ensure prompt event notifications.
- Team Expansion in Tokyo
  - Innovated a programming competition approach to identify top-tier software engineering talent, successfully expanding the Tokyo office team from 2 to approximately 20 members.

### NeuroLeap, Inc.

*Santa Clara, CA, USA*

SOFTWARE ENGINEER

*Jun. 2014 - Apr. 2017*

- **Developed an Assessment Application for iPad:** Streamlined the evaluation process for therapists working with children in schools.
  - Utilized both **Objective-C** and **Swift** to ensure robust and efficient app performance.
  - Targeted the app at therapists evaluating children's learning disabilities, providing a digital solution to a previously manual and paper-heavy process.
  - Dramatically **reduced the workload** for therapists, transitioning them from cumbersome paper tests to a more efficient, digital-first approach.
  - Integrated standard frameworks alongside innovative features such as:
    - ★ **Automated Question Updates:** Seamlessly fetched and updated questions from online spreadsheets, ensuring the app's content was always current without the need for constant manual updates.
    - ★ **Embedded WebView:** Facilitated rich report generation directly within the app, providing comprehensive insights and overviews for each assessment.

## Education

### UCSC Extension Silicon Valley

*Santa Clara, CA*

COMPUTER PROGRAMMING CERTIFICATE

*Jan. 2014 - Aug. 2014*

### The University of Tokyo, Tokyo

*Tokyo, Japan*

M.S., APPLIED COMPUTER SCIENCE

*Apr. 2006 - Mar. 2011*