

# Aleksandr Nisnevich

alex.nisnevich@gmail.com · (818) 235-3113

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<b>Education</b>	<b>University of California, Berkeley</b> 2013 – 2014 Master of Science, Computer Science, May 2014 Advisor: Dan Klein Focus Area: Artificial Intelligence and Natural Language Processing Thesis: <i>Probabilistically Modeling Semantic Change</i>	
	<b>University of California, Berkeley</b> 2009 – 2013 Bachelor of Arts, Computer Science, May 2013 (graduated <i>cum laude</i> ) Bachelor of Arts, Applied Mathematics, May 2013 (graduated <i>cum laude</i> ) Minor in Linguistics	
<b>Employment</b>	<b>Senior Software Engineer</b> , Microsoft Semantic Machines, Berkeley, CA 2022 – <b>Software Engineer</b> , Microsoft Semantic Machines, Berkeley, CA 2018 – 2022 <b>Software Engineer</b> , Semantic Machines, Berkeley, CA 2017 – 2018 <ul style="list-style-type: none"><li>• Developed data tooling to support pipelines for data annotation, augmentation and review, powering multiple generations of the Semantic Machines natural language understanding model.</li><li>• Built rich validation and data visualization interfaces to identify data issues.</li><li>• Spearheaded integration of Semantic Machines into the Microsoft Cortana stack post-acquisition, leading to SM-powered experiences in Microsoft Outlook and Teams.</li></ul>	
	<b>Data Scientist</b> , Bayes Impact, San Francisco, CA 2016 <ul style="list-style-type: none"><li>• Built a deep learning model to predict hospital readmissions using EHR data.</li><li>• Led development of an interactive visualization showing California water usage predictions, calculated by a regression model trained on historical data.</li><li>• Performed data intake, cleanup, and analysis on a variety of medical and government datasets. Presented results as a research paper and interactive visualizations.</li><li>• Designed and built a police use-of-force reporting portal for CA Dept of Justice.</li></ul>	
	<b>Software Developer</b> , Workday, San Francisco, CA 2014 – 2016 <ul style="list-style-type: none"><li>• As part of the SYMAN team, built an end-to-end machine-learning pipeline to predict employee retention risk, using the Spark big-data framework.</li></ul>	
	<b>NLP Engineer</b> , UPSHOT Data, San Francisco, CA 2014 <ul style="list-style-type: none"><li>• Worked on a natural-language interfaces for SQL databases, designing an ambiguity-reduction scheme to improve the robustness of a semantic CCG parser.</li><li>• After UPSHOT's acquisition, managed open-sourcing of core parser technology.</li></ul>	
	<b>Development Intern</b> , Academia.edu, San Francisco, CA 2012 <ul style="list-style-type: none"><li>• Wrote map-reduce jobs aggregating visitor statistics; built data-presentation tools.</li></ul>	
	<b>Lead Developer</b> , Social Apps Lab at CITRIS, Berkeley, CA 2011 <ul style="list-style-type: none"><li>• Led development team of a social web application to encourage participatory democracy, by letting users voice questions and concerns about their city.</li></ul>	
	<b>Web Developer (part-time)</b> , PrestoSoft, Thousand Oaks, CA 2006 – 2012 <ul style="list-style-type: none"><li>• Developed DiffNow, a popular online file comparison utility.</li></ul>	

## Publications

*Guided K-best Selection for Semantic Parsing Annotation.*

Anton Belyy, Chieh-Yang Huang, Jacob Andreas, Emmanouil Antonios Platanios, Sam Thomson, Richard Shin, Subhro Roy, **Aleksandr Nisnevich**, Charles Chen, Benjamin Van Durme.

Association for Computational Linguistics (ACL), System Demonstrations, 2022.

*Experience Grounds Language.* **[100+ citations]**

Yonatan Bisk, Ari Holtzman, Jesse Thomason, Jacob Andreas, Yoshua Bengio, Joyce Chai, Mirella Lapata, Angeliki Lazaridou, Jonathan May, **Aleksandr Nisnevich**, Nicolas Pinto, Joseph Turian.

Empirical Methods in Natural Language Processing (EMNLP), 2020.

*Task-Oriented Dialogue as Dataflow Synthesis.* **[100+ citations]**

Jacob Andreas, John Bufe, David Burkett, Charles Chen, Josh Clausman, Jean Crawford, Kate Crim, Jordan DeLoach, Leah Dorner, Jason Eisner, Hao Fang, Alan Guo, David Hall, Kristin Hayes, Kellie Hill, Diana Ho, Wendy Iwaszuk, Smriti Jha, Dan Klein, Jayant Krishnamurthy, Theo Lanman, Percy Liang, Christopher H Lin, Ilya Lintsbakh, Andy McGovern, **Aleksandr Nisnevich**, Adam Pauls, Dmitrij Petters, Brent Read, Dan Roth, Subhro Roy, Jesse Rusak, Beth Short, Div Slomin, Ben Snyder, Stephon Striplin, Yu Su, Zachary Tellman, Sam Thomson, Andrei Vorobev, Izabela Witoszko, Jason Wolfe, Abby Wray, Yuchen Zhang, Alexander Zotov.

Association for Computational Linguistics (ACL), 2020.

*Predicting All-Cause Risk of 30-Day Hospital Readmission Using Artificial Neural Networks.*

**[100+ citations]**

Mehdi Jamei, **Aleksandr Nisnevich**, Everett Wetchler, Sylvia Sudat, Eric Liu, Kirtan Upadhyaya.

PLoS ONE 12(7): e0181173. 2017.

*Probabilistically Modeling Semantic Change.* (Master's Thesis)

**Aleksandr Nisnevich**, David Hall, Dan Klein.

University of California Technical Report No. UCB/EECS-2015-36, 2015.

## Presentations

*Secrets of Natural Language Uls: Translating English Into Computer Actions.*

Joseph Turian, **Aleksandr Nisnevich**.

Strata + Hadoop World, 2016.

## Volunteer Experience

**Instructor**, RailsBridge, San Francisco, CA

2013 – 2014

- Taught introductory coding workshops aimed at underrepresented groups in tech.

## Personal Projects

*Portfolio:* [alex.nisnevich.com](http://alex.nisnevich.com) • [git.io/a-n](https://git.io/a-n)

**Wordbots** • [wordbots.io](http://wordbots.io)

2016 – 2023

A demonstration of the application of limited-domain semantic parsing to games. An online card game in which players write their own cards, whose text gets parsed and translated into JavaScript. Built on top of Montague, an open-source semantic parsing library released by Joseph Turian, Thomas Kim, and me based on our work at UPSHOT Data.

**Untrusted** • [untrustedgame.com](http://untrustedgame.com)

2013 – 2014

A JavaScript adventure game that requires players to modify its source code as they play in order to complete puzzles. Played over a million times, and used to help teach programming at schools, coding camps, and universities in the USA, Scotland, Slovakia, and Ukraine.

**Honors & Awards**

- *PC World's "100 Best Free Online Games"*, for *Untrusted* 2014
- UC Berkeley CSUA Hackathon, 1st place, for *Untrusted* 2013
- USA Mathematical Olympiad qualifier 2007

**Other Skills**

- Fluent in Russian.