

Dr. Ekaterina Kravtchenko

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Citizenship: USA (EU permanent residence permit)

Education

Ph.D. Language Science and Technology; *Saarland University*, Germany; 2022.

M.A. Linguistics; *University of California, Santa Cruz*; 2013.

B.A. Linguistics & Germanic Studies; *University of Massachusetts, Amherst*; 2008.

Research and Work Experience

Fraugster, Berlin, Germany; Machine Learning Team

Senior Data Scientist; 2019–present.

- Developed and continuously improved machine learning models for fraud detection, increasing the fraud catch rate for e-commerce sellers.
- Managed cross-team projects aimed at implementing new features and functionality in company machine learning tools, including implementing oversampling for imbalanced class distributions and developing Python modules for automated feature selection.
- Identified gaps in existing practices and processes and led projects in implementing improvements.

Saarland University, Saarbrücken, Germany; Department of Language Science and Technology

PhD Researcher; 2014–2019.

- Created and programmed predictive probabilistic models of empirical language phenomena (WebPPL).
- Designed, programmed (JavaScript), and statistically analyzed data from crowdsourced behavioral experiments using multilevel modeling (Python, R).
- Created novel web-based method for empirically measuring the strength of listeners' pragmatic inferences from complex utterances, resulting in 3 papers, 6 conference presentations, and 2 invited talks.
- Organized statistics reading group focused on mixed effect models in R; PhD representative 2014-2017.

Intel Corporation, Hudson, MA; Linguistic Resource Group;

Software Engineer: Linguist; 2013–2014.

- Created and co-managed a cross-site team of 6 linguists and computer scientists in systematically testing and guiding the development of linguistic software prototypes using Agile development methodology. Launched products include the Oakley Radar Pace.
- Co-developed an automated framework (Python) for rapid evaluation of software release functionality.

University of California, Santa Cruz; Linguistics Department

Masters Student; 2010–2013.

- Performed manual collection and detailed annotation of texts, and conducted advanced statistical analyses and visualization of experimental and corpus data (R).
- Provided experimental evidence for efficiency-based omission of linguistic elements in predictive contexts, resulting in 1 paper, 2 conference presentations, and 2 invited talks.

Harvard University, Cambridge, MA; Polinsky Language Processing Lab

Lab Manager and Research Assistant; 2008–2010.

- Coded, organized, and statistically analyzed data from cross-linguistic research on syntactic structure, resulting in 3 co-authored publications and 3 conference presentations.
- Programmed, recruited for, and designed stimuli for web- and lab-based experiments in English and Russian.

Research Publications

Demberg, V, **Kravtchenko, E.** & Loy, J.E. (2022). A systematic evaluation of factors affecting referring expression choice in passage completion tasks. Under revision.

Kravtchenko, E., and Demberg, V. (2022). Informationally redundant utterances elicit pragmatic inferences. *Cognition* 225.

Kravtchenko, E., and Demberg, V. (2022). Modeling atypicality inferences in pragmatic reasoning. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society* (pp. 1918–1924).

Kravtchenko, E., and Demberg, V. (2015). Semantically underinformative utterances trigger pragmatic inferences. In *Proceedings of the 37th Annual Meeting of the Cognitive Science Society* (pp. 1207–1212).

Kravtchenko, E. (2014). Predictability and syntactic production: Evidence from subject omission in Russian. In *Proceedings of the 36th Annual Meeting of the Cognitive Science Society* (pp. 785–790).

Polinsky, M., Gallo, C., Graff, P., **Kravtchenko, E.**, Morgan, A.M. & Sturgeon, A. (2012). Subject islands are different. J. Sprouse & N. Hornstein (Eds.), *Experimental Syntax and Island Effects*, Cambridge.

Polinsky, M., Gallo, C., Graff, P. & **Kravtchenko, E.** (2011). Subject preference and ergativity. *Lingua* 122(3): 267-277.

Xiang, M., Harizanov, B., Polinsky, M. & **Kravtchenko, E.** (2011). Processing morphological ambiguity: An experimental investigation of Russian numerical phrases. *Lingua* 121(3): 548-560.

PhD Thesis

Kravtchenko, E. (2022). [Integrating Pragmatic Reasoning in an Efficiency-Based Theory of Utterance Choice](#). Grade: *magna cum laude*.

Skills

Computer & Technical

Programming and Markup Languages: Python (proficient; scikit-learn, pandas, matplotlib), R (proficient; dplyr, ggplot2, lme4), SQL (intermediate), JavaScript (beginner), go (beginner), WebPPL, L^AT_EX

Machine Learning and Statistics: classical machine learning models (random forest, linear and logistic regression, XGBoost/Catboost), multilevel (mixed effect) models

Miscellaneous: SageMaker, git, docker, vim, bash, Atlassian products (JIRA, Confluence, Stash)

Data Collection and Analysis: Jupyter, RStudio, Tableau, Amazon MTurk

Operating Systems: Linux (Ubuntu, Fedora), Windows XP-11, Mac OS X

Languages

Native: English, Russian

Fluent: German

Awards & Honors

National Science Foundation Graduate Research Fellowship Program, Honorable Mention; 2012.

Summer Research Fellowship; University of California, Santa Cruz; 2011, 2012.

Regents' Fellowship; University of California, Santa Cruz; 2010.

Hobbies

Hiking, rock climbing, {board|role-playing|computer} gaming.