# Laurel Hart
## Computational Linguist

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## Education

**2013—2014** **Professional Master of Science in Computational Linguistics**,
*University of Washington*, Seattle, WA.
- Completed intensive, graduate-level program in 1 year
- Focused on Natural Language Processing (NLP), Machine Learning (ML), and language modeling
  - Specific topics included Machine Translation, Information Retrieval, and Question Answering

**2009—2013** **Bachelor of Arts in Applied Linguistics**, *Portland State University*, Portland, OR.
- Minor in Computer Science
- Honors College, undergraduate thesis: "The Linguistics of Sentiment Analysis"

## Experience

**2015—2017** **Artificial Intelligence Engineer**, *PullString, Inc. (formerly ToyTalk, Inc.)*, San Francisco, CA.
- Worked on *PullString Author*, a software platform for authoring human-fidelity AI conversation
- Designed, implemented, and improved Natural Language Processing features
  - Features included negation detection, number conversion, user and author input normalization
- Established large-scale testing to support data-driven decision-making
- Collaborated with technical and non-technical peers on product features
  - Expressive word/pattern matching syntax for use by non-technical users
  - Natural Language Processing and Machine Learning -based synonym and phrase suggestion

**2014** **Research Assistant**, *University of Washington - CSE*, Seattle, WA.
- Conceptualized and created a Java training data pipeline for multi-linguistic relation extraction system, MultiR
- Worked with large corpora:
  - Gigaword English, Spanish, and Chinese corpora: over 9 million documents
  - Freebase: currently over 2 billion facts
- Utilized Stanford's CoreNLP package for tokenization, Named Entity Recognition, parsing, etc.

**Winter and Summer 2012** **Natural Language Processing Intern**, *BCL Technologies*, San Jose, CA.
- Conducted research on Semantic Role Labeling for Modern Standard Arabic
  - Authored demonstration paper published in *Proceedings of COLING 2012* (see Publications)
  - Created annotated linguistic data
- Wrote grant proposals, company awarded $80,000 SBIR toward Multilingual Author Identification
- Other research areas: text summarization, spoken language identification, automated financial data extraction

## Technical skills & selected projects

**ML** kNN, Decision Trees, Naïve Bayes, MaxEnt, and SVM (Python)

**NLP** HMM-based Part-of-Speech tagger, Word Sense Disambiguation system, CKY parser, tokenization, Context Free Grammars incorporating features and semantic representations

**Recent** Training pipeline for a semi-supervised multilingual relation extraction system (Java); product review sentiment analysis research (Python)

**Languages** Python, C++, Java

**Tools** NLTK, spaCy, Stanford CoreNLP, Mallet, Maven, Git, Mercurial, Bash, LaTeX

## Publications

**2012** Hart, Laurel, Hassan Alam and Aman Kumar, "**Revisiting Arabic Semantic Role Labeling using SVM Kernel Methods**" *Proceedings of COLING 2012*. December, 2012: 207—14. http://aclweb.org/anthology//C/C12/C12-3026.pdf