

Laurel Hart

Computational Linguist

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Experience

- 2018— **Natural Language Processing Specialist**, *Woebot Labs, Inc.*, San Francisco, CA.
- Present
- Improved Natural Language Understanding in the Woebot chatbot
 - Created a more naturalistic conversation experience for users
 - Applied expertise in chatbot conversational design to existing product
 - Identified common pitfalls and suggested solutions
 - Conducted analysis of how natural language understanding issues affect retention during app onboarding
 - Assisted in creation of new chatbot authoring environment for use by non-technical users
- 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.
- 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.

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"

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
- Languages** Python, C++, Java
- Tools** TensorFlow, FastText, NLTK, spaCy, Stanford CoreNLP, Git, Mercurial, Bash, L^AT_EX

Publications

- 2013 Hart, Laurel "**The Linguistics of Sentiment Analysis**" Portland State University *PDX Scholar*. 2013: <http://pdxscholar.library.pdx.edu/honorsthesis/20>
- 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>